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PUBLIC INSTRUCTION IN BENGAL.

Sir Alfred Croft's Report for the year 1894-95 is, in consequence of a rule of the Bengal Government directing that details should be discussed only in alternate years, rather shorter than that of last year, but as the Lieutenant-Governor observes, this fact does not diminish "its completeness as a record, the value of its suggestions, or its utility to Government for administrative purposes."

We learn from it that there has been a decided increase in numbers both of pupils and institutions, the former having risen from 1,549,267 to 1,641,519 and the latter from 67,217 to 69,741. This is a very much greater increase than was reported for 1893-94 and we have to go back to 1891-92 when the increases were 1,800 and 63,000, for institutions and pupils respectively, to find anything like it. The increase is shared by all the classes of institutions, except that colleges have lost 118 pupils, and that there has been

a decline in Sanskrit "tois" and elementary vernacular schools. This it is explained is partly accounted for by the absorption of many of the latter in the established system of primary schools.

There seems to be chronic friction between the District Boards and the Educational officers in Bengal. One cause of this is the employment by local bodies of inspectors of their own whose work sometimes clashes with that of the Government officers. Sir Alfred Croft quotes Dr. Martin as follows:—"When the District Board of Howrah decided on employing an inferior class of Sub-Inspectors, one under each Local Board, together with a Sub-Inspector for the whole district, the latter only to be permitted to inspect Secondary schools, I protested, pointing out that Government provided the district with a Deputy Inspector to perform the very duties which the Board was now entrusting to the Sub-Inspector, but the Board was obdurate and refused to reconsider their former decision." Howrah appears to have wished to set aside the Deputy Inspector altogether, in other districts there was want of harmony of a less pronounced kind, and not always apparently from the fault of the Board. A Sub-Committee for education with the Deputy Inspector as a member is appointed by some Boards, but in one district the Board having paid the Deputy Inspector this compliment, the committee arranged most of its meetings for days when the Inspector was on tour. Another source of friction is the custom of utilising the services of the Board Sub-Inspectors in preparing the annual returns in the Deputy Inspectors' offices. One inspector complains of the "passive opposition" of a district board in connection with this custom. It is satisfactory to learn that these complaints are getting fewer and fewer. It appears also that the want of liberality towards education noticed in previous years is disappearing, and Sir Alfred Croft reports that his criticisms on budgets are met in a proper spirit, and that when there is difference between a Board and himself as to the proper educational grant, "it is seldom that after correspondence a satisfactory settlement is not arrived at." The Bengal Government has laid down in a resolution the principles that deficiencies in income are not to be made good by retrenchment in educational expenditure alone, but by economy in all directions, and that educational expenditure is to increase proportionately with the natural growth of local incomes.

The first point we notice in connection with the Collegiate Education, is that the germs something like the Oxford and Cambridge inter-collegiate system of lectures are to be found in Calcutta, as we read, in connection with the number of students in the Presidency College, "the 40 students of the Madrasa attend all their lectures in this College, and 37 students of the first and second year classes of the Sanskrit College go over to the Presidency for lectures in Physics and Chemistry." How much waste of time in lecturing could be spared and how much consequently saved for direction of the studies of individual students, if only our great colleges were situated within convenient distance of one another.

One of the most interesting passages in the Report is the description of the work done by the Sibpur Engineering College. This seems in a fair way of becoming a Technical Institute, comprising, as it does, an Engineering Department, affiliated to the University, a Foreman Mechanic Department, and an Artisan class. In Mr. J. S, Slater, the Bengal Government plainly has a most efficient officer, and in its dealings with him it appears to relieve him in a remarkable way from the trammels of red tape. The practical work of the College has recently been transferred from the D. P. W. to the College, and with that object a grant of Rs. 50,000 was placed at his disposal for the erection of new sheds, the transfer thereto of the existing machinery belonging to the College, and the conversion of half the existing workshops into class rooms. Mr. Slater appears to have done all this within the year, and so economically that he was able to purchase "some greatly needed machines out of the grant made over to him, after providing for all other requirements." What a contrast this practical way of providing for education apparatus presents to Madras methods. About three years' correspondence between the Professor of Chemistry, the Principal, the Director of Public Instruction, the Consulting Architect to Government, the Chief Engineer, and Government itself, has, notwithstanding that Government has provided the money, not resulted in the fitting of the new Chemical laboratories in Madras. What would have happened if Dr. Wilson had received twenty or thirty or whatever may be the necessary number of thousands of rupees on the understanding that he fitted his own laboratories, answering for the proper execution of the work with his professional reputation?

Sir Charles Elliot never misses an opportunity of commenting

on the "want of uniformity and the element of uncertainty which so largely affect the results of the University Examinations." In his review of the present report a diagram is introduced which represents these graphically, and the picture is a startling one. The percentages of success in the Entrance Examination for instance are as follows for the years 1889-95 :—25, 50, 43, 40, 67, 44, 47. In the B.L, they went from 52 to 70 and then fell first to 63 and then to 27 and after another rise to 47 fell to 23 in 1895. Roughly speaking the Entrance and B.L. percentages rise and fall together. It were a quaint exercise in pedagogics to formulate the law of the connection.

Paragraph 79, on Discipline, provides matter for serious consideration. Several cases of serious assaults by pupils on schoolmasters for refusal of promotions and similar disciplinary measures are reported. Forgeries of the names of guardians to obtain a transfer from one school to another seem to be rather common. The case of the Noakali Zilla School which has been reduced from a state of turbulance to one of order goes to show that these irregularities are curable by wisdom and firmness on the part of schoolmasters.

There are many other matters of interest in the Report and the Lieutenant-Governor's review, and we commend them to the attentive study of all people interested in the problems presented by the present state of education in India.

STATE SYSTEM OF EDUCATION.

In a recent issue we remarked on certain disadvantages attending a State system of Education. The points we insisted upon were two. First that a State system necessarily produced uniformity in schools and colleges, and that among the educated classes there was in consequence noticeable a very great uniformity of type, and a consequent lack of what for want of a better word is called "originality": secondly that the trying of educational experiments was discouraged, and indeed almost prevented by State regulation. We now propose to consider how far these dis-

advantages are mitigated, and whether it is possible still further to mitigate them in the future.

In the first place, the growing popularity of school and college societies both athletic and literary is a very healthy sign that students are feeling that Education means something more than plodding blindly through a prescribed course, and it cannot be questioned that the men who are most active in the college debating or dramatic society, or as members of the cricket or foot-ball club, are those who show least of uninteresting conformity to a type. It is among them that we find the most adaptable minds, the liveliest energy, the greatest fore-thought, and the greatest breadth of interests. But even here is noticeable a tendency to the formation of types. The college student no longer necessarily belongs only to one class, the student class, but often to another as well, he is student and athlete, or student and politician, or student and actor, some possibly belong to all four classes, though our own personal experience does not furnish an instance. Now this multiplication of types by three, or if we regard the dramatic society man as distinct from him who is active in the literary or debating society, by four, is of course a great advance, somuch so that we think much is to be hoped from extensions of the college society system into at present unexplored regions. The more various the interests touched by college societies the greater is likely to become the variety of types represented among college students. One great counteracting influence to too great uniformity, that may be looked for in the future is then not only the multiplication of college societies, but the multiplication of kinds of societies. In particular we would advocate the establishment of societies for the study of the Arts and Sciences. The necessity of æsthetic culture is touched on elsewhere in this number, so we will say no more about it here. Societies for scientific study, especially History and Moral Science, do exist, but their usefulness for the purpose we have in view is very much curtailed by the fact that students, having a single eye to examinations, only join the society that deals with their particular "Science" subject. No doubt most of the work of such societies must be done by men who are studying the subject they take up, but others miss great opportunities of breadth of culture by holding entirely aloof from them. This is especially

true of students of the exacter sciences, who might easily and to their great profit follow essays and debate on points of History or Moral Science. We remarked in one former article that the extension of the system of training teachers might easily mean an extension of monotonous uniformity in education. How far this tendency has been or is being manifested, we will leave people responsible for the management of such institutions to decide, and assuming the danger will ask how it may be combated. Plainly the voluntary work of teachers' associations is as useful here as the similar work of the College Societies, but since the very essence of good teaching is originality and adaptability we should expect the formal course of training to be so devised as to give the utmost encouragement to these qualities. How far, again, it is so, we leave to the Training College authorities to decide. If any Training College masters, however, want a few hints as to how to foster originality in Training College work they will find therein an account we reprinted in October last of a visit to the Teachers' Training College, Cambridge.

VALUE OF EXAMINATIONS AS TESTS OF KNOWLEDGE.

One of the charges brought against the present system of education is that it makes education subsidiary to examination and not examination to teaching. The undue importance attached to examinations has resulted, in many instances, in the cultivation of quick superficiality and power of cleverly skimming over a subject, and the diffusion of energies over many subjects that are likely to pay at examinations. All this produces an incapacity for original work.

There can be no doubt that, in the absence of other tests for finding out the real capabilities of a student, the test of examinations is the safest we can rely upon. Knowledge is one of the conditions of fitness for special employments, and examinations may be one of the best means of ascertaining whether the necessary knowledge has been acquired. At the same time it must be remembered that examination is not by any means the sole test of the possession of real knowledge. Of course, if by knowledge is meant the acquisition of a definite quantity of book learning in a definite quantity of time, then we are justified in looking

upon examinations as real tests of the intrinsic capabilities of an individual. But the term happily has a wider and a more appropriate application. By education is meant the drawing forth or cultivation of the human faculties, and by knowledge is meant the mental power which an individual has of grasping and fully comprehending the inner nature and the very philosophy of the subject to which he turns his attention. It is certainly very easy to obtain a superficial idea of the leading principles of a subject; or to cram in a short space of time the requisite points which are likely to be of use in an examination, but it is totally a different thing to get at the root of a subject, to know its fundamental truths and above all to be able to apply these truths, if need be, to the realities and duties of life.

Examinations, we repeat, are not by any means the surest tests for finding out whether a student has acquired a real knowledge of a particular branch of study. We shall just notice here a few causes of the insufficiency of examinations as real tests of knowledge.

In the first place, there is much that is accidental in the success which attends examinations. The real student takes care to have a fair idea of the whole subject; his is not that loose method of study by which knowledge is acquired simply with a view to creep through an examination. He pays equal attention to all that is of real value in the domain of knowledge. On the other hand, most students read with the sole object of securing a mere pass. They cram up a few points that are likely to pay at the examination. Nothing is more surprising sometimes than the results of an examination. The expectations of the teacher are entirely frustrated. The worst student often happens to secure a better place than one who is really far better than he.

Want of self confidence is another cause for the failure sometimes of the very best students. A sort of indefinable dread comes over many students on first presenting themselves for an examination, in spite of the efforts they have made conscientiously to acquire a proper knowledge of the subjects prescribed for it; a fear lest they should fail to obtain the approval of the examiners. This feeling acts on the nerves which have already been overtaxed by hard study, and produces a sort of tension which disables their doing justice to themselves. As a general rule, the ill-prepared students are those who enter the examination room with an overweening confidence in themselves. Sometimes also the examination papers are so meagre that the candidate has no scope for the exercise of his intelligence. We have here pointed out a few causes which tend to lessen the importance of examinations but with the proper selection of examiners and much time and attention

given to preparing the questions, examinations may be made more effective as tests of the real capabilities of a student.

EDMUND SPENSER.

Are you wearied with this work-day world of ours and would you forget for a moment the sufferings and griefs of the men and women that live and toil in it, poor insignificant creatures at best? Or has familiarity with earthly joys made them already distasteful to you, longing to soar above the trifles of this world, and to find pleasure in a realm of pure unfettered imagination? Such relief and such pleasure you would find in Spenser's works. For while he has been censured by some as being thoroughly deficient in dramatic power—"the power of conceiving and portraying character and of giving human interest to his story by rousing our sympathies with the joys and griefs, the struggles and triumphs of his heroes"—these very critics have been constrained to admit "that the very remoteness of all he describes from real life is one of his sources of pleasure, his power of invention as well as of description, and not less the singularly sweet though somewhat monotonous melody of his versification, find their most suitable field in visions of Fairy Land, and vague allegories, the wanderings and adventures of Elfin Knights and Fairy Ladies." In fact Spenser must not be judged by the standard of our age, which tends to be realistic and practical, but by that of his own. To appreciate Spenser we must fancy ourselves living in his time, and feeling and thinking like the people of his days. The constitution of his mind, the character of his frendships and studies, the chivalrous and romantic tendencies of his days, everything in and about him led him to ideal poetry. He was perpetually dreaming, imagining, and by a peculiar magic of his mind transforming all that he saw about him into pictures, the most strange and fairy-like. His mind is ever full of enchanted castles, dwarfs, giants, gods and goddesses, nymphs and satyrs, wandering ladies, splendid and gorgeous shows, processions and what not. He is ever creating, ever imagining. Whatever he found beautiful and pleasant in the literature and manners both of the old pagan civilization and that of the romantic age in which he lived he marvellously blends together and praises. His description of the beauties of Nature on the other hand are indeed fascinating. The marvels of mythology, the lofty endeavours and aspirations of chivalry, the beauties of Art and the charms of Nature, he sings and that in a most melodious manner. "His most genuine sentiments

become fairy-like." We know we are in Fairy Land and experience a peculiar pleasure in being so.

The following quotations may serve to illustrate the fertility of his imagination and the originality of his pictures. The palace of Morpheus, the God of Sleep, is thus described :—

"Amid the bowels of the earth full steepe ;
And low, where dawning day doth never peepe,
His dwelling is ; there Tethys his wet bed
Doth ever wash, and Cynthia still doth steepe
In silver dew his ever drooping head,
Whiles sad night over him her mantle black doth spread.
And more to lull him in his slumber soft,
A trickling stream from high rock tumbling down,
And ever drizzling rain upon the left,
Mixt with a murmuring wind, much like the sound
Of swarming bees, did cast him in a swoon.
No other noise, nor peoples troublous cries,
As still are wont to annoy the walled town,
Might there be heard, but careless quiet lies
Wrapt in eternal silence far from enemies."

Again mark how ideal and yet how beautiful is his description of Brotomart, the virgin hero, and of Una, the pure and innocent. Spenser in his conception of female character sees it at its best, though his writings are not wanting in loathsome images as well.

The following is a picture of one of his heroines :—

"Her face so fair, as flesh it seemed not,
But heavenly portrait of bright angel's hue,
Clear as the sky, without blame or blot,
Through goodly mixture of complexions due,
And her cheek the verneil red did show,
Like roses in a bed of lilies shed,
The which ambrosial odours from them threw,
And gazers sense with double pleasure fed.
Able to heel the sick and to nerve the dead.
In her fair eyes two living lamps did flame,
Kindled above at the Heavenly Maker's Light,
And darted fiery beams out of the same,
So passing persant and so wondrous bright.
That quite bereaved the rash beholder's sight.
In them the blinded god his lustful fire,
To kindle oft assuaged, but had no might ;
For with dread majesty and awful ire
She broke his wanton darts and quenched base desire."

Lines such as the above show how keenly sensible was "our poet"

of moral as well as sensuous beauty. Compare also his appeal to the Muses, and the picture of the Lion, lord of every beast, doing homage to the sad and forsaken Una :—

"And on the grass her dainty limbs did lay
In secret shadow, far from all men's sight;
From her fair head her fillet she undight.
And laid her stole aside. Her angel's face,
As the great eye of heaven shined bright,
And made a sunshine in the shady place;
Did never mortal eye behold such heavenly grace.

It fortuned out of the thickest wood
A ramping lion rushed suddenly,
Hunting full greedily after salvage blood;
Soon as the royal virgin he did spy,
With groping mouth at her ran greedily,
To have at once devoured his tender corse,
But to the prey where as he drew more nigh.

His bloody rage assuaged with remorse,
And with the sight amazed forgat his furious force
Instead thereof he kissed her weary feet
And licked her lilly hands with fawning tongue,
As he her wronged innocense did meet.
Oh how can beauty master the most strong
And simple truth subdue avenging wrong?"

Spenser like all true poets is full of the subject of Love and Beauty, thus :—

"For Love is lord of Truth and Loyalty
Lifting himself out of the lowly dust,
On golden plumes up to the purest sky,
Above the reach of loathly sinful lust
Whose base affect through cowardly distrust
Of his weak wings dare not to heaven fly,
But like a mold-warpe in the earth doth lie."

How fully alive Spenser was to the beauties of nature is seen by the following lines :—

(a) Now when the rosy fingered morning faire,
Weary of aged Tithone's saffron bed,
Had spread her purple robe through dewy air
And the high ills Titan discovered, &c."

(b) "As gentle shepherd in sweet eventide
When ruddy Phæbus gins to pale in west;
High on hill his flock to view best
Marks which do bite their hasty supper best."

(c) The joyous birds, shrouded in cheerful shade,
Their notes unto the voice at-tempered sweet
The silver sounding instruments did meet
With the base murmurs of the waterfall.
The waterfall with difference discreet,
Now soft, now low, unto the mind did call,
The gentle warbling wind low answered to all."

His visions of Petrarch and Du Bellay are admirable dreams, in which palaces, temples of gods, splendid landscapes, sparkling rivers, marvellous birds appear alternately as in an oriental fairy-tale. The train of splendours and of scenery never ends; desolate promontories cleft with gaping chasms; thunder-stricken and blackened masses of rocks, against which the hoarse breakers dash; palaces sparkling with gold wherein ladies like angels, reckoning carelessly on purple cushions, listen with sweet smiles to the harmony of music played by unseen hands, where groups of oaks spread their motionless shadows over tufts of virgin violets, and turf which never mortal foot has trod; and to all these beauties of art and nature he adds the marvels of mythology and describes them with as much of love and of full credence as a painter of the Renaissance or an ancient poet.

Though we know little of Spenser's uneventful life, and though he is not given to thrusting himself forward in his writings, which contain little or no allusion to his personal history, still we may read in his poems the tender and refined qualities of his soul, his sensitiveness, his loyalty, his simplicity, his sincerity, and above all his benevolence and tender sympathy for all, find expression in his works. Like Shakespeare he is wholly unconscious of his ability and greatness. He loved his subject, sympathised with it and thus has succeeded in painting in such detail and in such lively colours. We do not behold a vague sketch, but a complete and perfect picture. The following is from Hallam's 'Literature of Europe.' "It has been justly observed by a living writer of the most ardent and enthusiastic genius, whose eloquence is as the rush of mighty waters, and has left it for others almost invidious to praise in terms of less rapture, as to censure what he has borne along in the stream of unhesitating eulogy, that 'no poet has ever had a more exquisite sense of the beautiful than Spenser. In Virgil and Tasso this was not less powerful; but even they, even the latter himself, do not hand with such tenderness of delight, with such a forgetful delay, over the fair creations of their fancy. Spenser is not averse to images that jar on the mind by producing horror and disgust, and sometimes his touches are rather too strong. But it is on love and beauty, on holiness and virtue that he reposes with all the sympathy of his soul. The slowly sliding motion of

his stanza 'with many a bout of linked sweetness long drawn out' beautifully correspond to the dreamy enchantment of his description, when Una, Belphæbe, or Florimel or Amoret is present to his mind. In the varied delineation of female perfectness no earlier poet has equalled him; nor excepting Shakespeare has he had perhaps any later rival.'"

Milton was so impressed with the purity of his heart and sentiments with his lofty conception of duty and of the particular virtues, that he pronounced him to be a better "teacher than Scotus or Aquines."

Spenser's life was full of disappointments and trials; and misfortunes pressed easily upon him in the evening of his days. At the breaking out of the Tyrone Rebellion in 1598 Spenser, then Sheriff of Cork, fled in great haste to save his life; but by some mischance his child was forgotten and must have been burnt alive by the rebels, who fired his house. Spenser did not long survive this cruel blow. He died broken-hearted and now sleeps by the side of Chaucer in Westminster Abbey. How true is it that all great men are born to sorrow.

THE BOMBAY UNIVERSITY CONVOCATION ADDRESS.

BY THE HONB'LE MR. JUSTICE JARDINE, VICE-CHANCELLOR.

As our solemn ceremony draws to an end I must ask from the members of the Senate some indulgence. I would desire for myself, if such a thing could be, that the Vice-Chancellor had at his right hand a Master of Rhetoric like the public orator in the ancient Universities of England, who appears on the scene as Annalist and Herald, and in sonorous and commanding Latin gives voice to the sentiments which the events of the time have aroused in the learned society. Were such a personage to appear to-day in this Hall of Convocation he would doubtless see much to interest the imagination, much that would be new, while, all the same, much would be familiar, though under a different air. For our high solemnity of this day has long ago received the sanction of time. We follow the example of the more venerable Universities of Europe in the design of "impressing on the minds of those our students who come up for their degrees an abiding sense of the value of the gift of the duty they owe to their *Alma Mater*, of the pride with which they should regard her, as also of the seriousness of the charge she delivers to them in the crowning moment of their honours that "ever after in their life and conversation they

show themselves worthy of the same." It is fitting, therefore, that they should pause and consider what is implied in the grant of a degree and how the custom arose. For the answer we must turn our thoughts far back into the past and fix our gaze on the doings of the medical men in the school of Salerno and the followers of the civil and canon laws in those of Bologna. The great teacher was held in those times in almost unique honour by Popes and Princes as well as by scholars; strangers came to him in crowds from far countries and combined into the "nations" of students who listened to his teachings or followed his discoveries. Mature officers of State and men high in the Church kept terms in order to perfect their learning at his lectures in Law or Theology. Naturally some among the students became his cherished disciples; and they and many more wished to emulate such a career; but for this endeavour not only similar gifts of learning were needed, but also proof of the same. Hence arose the power and privilege of conferring degrees. The diploma showed that its holder had passed through the course of studies, and was not a mere talkative or charlatan. The title of Master carried with it competency to teach; while the other ancient degree of Licentiate gave the coveted right to practise without fear or risk. He who attained to the Doctorate, then as now the highest of all, went forth into the world stamped for the residue of his days as a very learned man. As the old learning, which had disappeared with the schools of the Roman Empire, began to revive and new studies grew up under Christian and Arabian influences, men of erudition in one country easily passed into another, founding schools of their own which sometimes grew into Universities. The degree gave confidence and brought patronage and fame, being soon considered as a passport of universal validity. Let us turn from that time of intellectual dawn to the year 1857 when this University of Bombay was founded by Act of Incorporation for the encouragement of a regular and liberal course of education. The University was to ascertain, by means of examination, the persons who have acquired proficiency in different branches of Literature, Science and Art, and to reward them by academical degrees as evidence of their respective attainments and marks of honour proportioned thereunto. These duties have been academically performed from that year till this: and I take it to be the general consensus of opinion that the University has been true to its aim and successful therein, namely, in extending around all the benefits of a regular and liberal course of education. In this success it would be mere truism to say that the graduates themselves have done their share. Albeit many of them, especially among the Hindus, as my learned predecessor in this chair pointed out last year, have died all too soon—their sun is gone down while it was yet day—

many have made themselves names in the learned professions, and in the meantime have infused those professions with a higher standard of learning. It is almost a commonplace to mention how much the law has gained thereby, how powerfully the influence of the University is felt both on the Bench and at the Bar. The experience of the Medical profession is similar. More and more men pass through the schools, and in the daily practice of the most humane of arts make the poorest and most ignorant of the people the gainers of the richest boons which the most recent science afford. In Civil Engineering we find the holders of our degrees filling responsible posts in the public service. But there are many more, chiefly perhaps in the great Faculty of Arts, who have kept more closely to the scholastic career and risen to be Principals or Vice-Principals of Colleges and similar learned positions like some of those whom on behalf of the assembled University I welcome to the ranks of our Fellowship this afternoon. They are only a few among many almost equally worthy, and who would more easily have been considered worthy of Fellowship if the times were what they were ten or twenty years ago. This I take to be another reassuring sign. I can testify to the extreme care and patience employed by the Governor in Council in his endeavour to select for the Senate of so great and important a body the men most fit to wear the robe. I can say from a study of the lists of former graduates and of the positions to which they have attained in the world of learning that the choice of the best is difficult where there are so many good. Let me also mention, let the new body of Fellows allow me to use them as a text, there are cases where men graduating here in first-class degrees have continued their scientific career in Europe and gained the appreciation and esteem of the great men of science. We have long made use of the services of our graduates, as also of those gentlemen educated at other places, in that all-important work of examinations. Now I have said something about the people who are within; I must add something about those who are without. A great institution influences mankind in all sorts of ways: once you light the lamp of learning, it will shine into all sorts of places. Let us take the movement which is now seven or eight years established in Bombay for the study of the language and literature of France. I do not doubt that this is partly due to the recognition of French among our studies. But beyond that it must be greatly pervaded by the increased desire for a liberal education; and I think it quite in accord with the broad views of the University that it should receive into the Senate even as a specialist another of the promoters of this branch of literature; and by his side one who has long been a vot-

ary of the Maratha Muses. For the events of the past year we refer you to the report; they have been few; we have little to record. The much considered questions about the degree of Bachelor of Science have, however, been determined; and the new course has received the sanction of the Senate. The questions which have in past years risen round the degrees in Medicine have yet to be solved. Some new problems have presented themselves regarding the methods on which all our examinations are conducted. They are receiving consideration in the Faculties. The Faculty of Arts has recommended that History and Philosophy should henceforth be made independent branches of the examination for the degree of M. A. I know that many here recognize the dryness of the discussions on the details of a curriculum, and would gladly avoid their repetition in the Senate but for the importance of the results. It is by such details of regulations that the time usually taken by a student to get a degree has to be measured; it is also by their means that we try to keep up the high standard of our degree. Now without touching on the merits, which are more for the discussion of the Senate, or forestalling any views which may be explained or accepted, I think that I may, while confining myself to matters academical, make a few remarks on some differences between our constitution and that of older Universities and of some of the dangers which we thereby incur. Throughout the United Kingdom the every-day work of the Universities is done by the men on the spot; the large majority of whom as Masters of Colleges or Halls, or as Professors or tutors, are, or have lately been, in close and familiar contact with the actual work of teaching, with its books and methods, with the minds of the scholars, whose needs they know and understand. Men not holding such positions of vantage, however eminent they may have been in the Class Lists, however distinguished since as statesmen or scholars, are not prone to enter the lists as rivals, or indeed to sway the debates at all. Doctors, we know, are liable to differ; but the general feeling is that the professors and tutors best know the students, and that they must settle among themselves in the common rooms, in Committee, in the Senate House, those questions about text-books, standards, pass-marks, &c., which arise round examinations. Here in Bombay things are very different. Our crowded island city is not given up to Colleges and Halls, to graduates and undergraduates, like the old towns on the Isis and the Cam. The masters and tutors here are hardly an appreciable fraction of the people. They are always busy in the term time; and the climate is not favourable. Their meetings are infrequent; and there is no Association of Masters. The Colleges outside Bombay are cut off from its life; and it is harder for them to make their influence felt. Men of learning in Colleges at Ahme-

dabad or Baroda or Kolhapur or even Poona, have difficulties in exchanging views with their equals in Bombay; neither can they attend meetings of the Faculty or the Senate without inconvenience and expense and notice beforehand. It may be that some of them come in order to give the laymen of the Senate some of their ripe experience and sound judgment: but they have to leave by the night train, the debate is not at an end, it may have been retarded by too many orations or perorations, and ended in a withdrawal or a postponement. In such debates it is difficult for the Principal or Professor of a College to shine. His conclusion on a matter is often based on a lot of small facts, which other people do not well understand—I mean on hours of attendance, books, media. This conclusion is one which ought to be tested by comparison with those formed by other men, his like. The consensus so reached would probably be best explained in a report, worst in a speech in the Senate. On the whole then I think that the Professorial body throughout the Presidency is in our deliberations far weaker than it ought to be, far weaker than the similiar body in an English or Scottish University ever is, far weaker than is consistent with safety. There would be more meaning in a resolution of the Senate if it were the rule that the arrangements about examinations should not be altered, unless a serious call for alteration had been uttered by the Professorial body. What is the growth of the common room ought to be at home in our academical atmosphere. I think too that parents and pupils would be glad to be relieved from frequent change or the fear of frequent change in our regulations. The stream of private liberality has kept on flowing in the direction of endowments for scholarships, and it is a pleasing circumstance to notice that in this way the name of our Chancellor—Lord Sandhurst—has already been commemorated by a Mahomedan donor. Year by year the path of the poor student in his upward career is being made easier, but there exists the same perennial need of endowments for research. The ordinary calls of their professions and duties are more and more absorbing the time of the educated classses and the tendency of the Government to abolish any easy appointment and add its duties to some other is likely to be followed. This again is to some extent counteracted when a special laboratory is established; but much more ought to be done. We have the scholarship, but we want the funds, else might we start some of our own Fellows or graduates on such careers as have been followed by Pasteur and Roax. As it is I am credibly informed that few medical men in this country have time for research. I think, therefore, it is well to suggest that some chairs might be established in the University for this purpose. Again, is it not the fact that with such facilities as the island of Bombay and its neighbourhood affords, an everlasting

research might be devoted to Comparative Philology, and yet we have no chair? See how many languages of the country of Arabia, Persia and Africa are spoken here; how much remains to be learned about the Indian languages and their dialects; how many facts are being lost among the obscurer people as they come more and more under the dominion of change, in like manner as the traditionary knowledge of Sanskrit, handed down by the men who could speak it, was beginning to decay when Dr. Kielhorn was preparing his Panini's Grammar. I hope the times may change. I think all lovers of learning must feel restless for the time to come again when their wealthy fellow-citizens will feel emulous of the men who—it is not a great many years ago—built this beautiful hall through which so many hundreds of bright students have passed—built the Library with its lofty tower. It is curious—I won't say unfortunate—that learning and wealth do not often come together. Learning has often wanted protection and needed fostering. Perhaps the princely, the noble, and the wealthy classes in this Presidency have more calls on their treasure chests then their forefathers had to meet; but many incomes have increased too, many of the men of position have studied well and become patrons of learning in their own neighbourhood, while some, like the Maharaja of Bhavnagar, whose untimely death is now being mourned, did much for science in the central cities. I take up the parable over his ashes; and would point out to those whose hearts prompt them to follow his princely example, that by founding a suitably paid chair for the purpose of research, they shelter some profound scholar from the hustle and bustle of life, and so let him take his tranquil pace along the path of discovery which means benefit to mankind.

THE CALCUTTA UNIVERSITY CONVOCATION ADDRESS.

The Convocation of the University of Calcutta for conferring degrees was held at the Senate House, College Square, on Saturday afternoon last. There was a very large gathering of ladies and gentlemen.

The Members of the Senate (in academic costume) assembled at 3-45 P. M., and at 4 P. M. the Vice-Chancellor and the Fellows formed a procession in the following order, and entered the Hall :—The Registrar, Members of the Syndicate, the Vice-Chancellor, *ex-officio* Fellows and the remaining Members of the Senate.

The Hon'ble the Lieutenant-Governor of Bengal and the Hon'ble Mr. Woodburn occupied seats on the *dais* to the right and to the left of

the Vice-Chancellor. The *ex-officio* Fellows and the Members of the Syndicate occupied seats on the platforms to the right and left of the *dais*. Other members of the Senate occupied the front rows of seats facing the *dais*. The Vice-Chancellor having declared the Convocation opened each candidate for a degree was presented to the Vice-Chancellor by the Principal of the College at which he had studied, over by the President of his Faculty, in the usual form, on which the Vice-Chancellor gave the candidate the diploma of the degree There were 84 M. A.'s, 448 B. A.'s, 145 B. L.'s, 1 M. D., 3 M. B.'s, 25 2nd L. M. S.'s, 3 B. E.'s, and 3 L. E.'s. The Vice-Chancellor then addressed the Convocation.

Your Honour, Members of the Senate,—The severe and prolonged illness from which His Excellency the Chancellor has lately been suffering, and which has aroused widespread sympathy among the people committed to his rule, touches us as a University very closely, inasmuch as it has deprived us on this occasion of the pleasure of listening to an address to the Senate from his lips—an opportunity of which I have good grounds for believing that he would gladly have availed himself had the state of his health permitted it. The remarks which His Excellency addressed to the Senate two years ago assured us of the interest which he had long taken in all educational questions, and of the sympathy which he felt with the great educational movement which this University represents. While therefore we are happy in being able to congratulate him on what we hope is a complete recovery, it is at the same time a source of no small disappointment and regret to us, as it is also to the Chancellor himself, whose wish and full intention it was to be present that the opportunity of addressing the Senate at this Convocation should have been denied him. I share that feeling of regret to the utmost. Occupying, as I now have to do, the place which we all wish the Chancellor had been able to fill, my remarks on this occasion will be brief and confined to a review of the leading events of the past academical year.

The results of the annual examination are such as to call for no particular notice. There has been a satisfactory advance in the number and the proportion of successful candidates at the Entrance and First Arts Examinations. At the B. A. Degree Examination there is some falling off and a large increase in the number of Masters of Arts. If I may be forgiven a personal retrospect, I am tempted to compare the result of 1895 with those of the year 1865, about the time when my connection with the University of Calcutta began. The University had then been in existence nine years, and the number of candidates passing the Entrance Examination was 510; it is now 2,743. The B. A. Gradu-

ates were 45; the outturn this year is 448. The Masters of Arts were 8; and this year the number is 84. The number of colleges affiliated to the University in Arts was 29; it is now 99. And still more there was then but one University for the whole of Northern India, Burmah and Ceylon; the number has now been increased to three, each with its own affiliated institutions and its own annual supply of Graduates. The development of education which these figures indicate is certainly remarkable. In some quarters it has been described as abnormal and excessive; but is this a just description? It is not a sufficient answer to say that if the annual outturn of Graduates be compared with the whole of the population of Bengal (to say nothing of the other Provinces which the University serves), it gives only one Graduate a year for every 150,000 of the people; for if the supply is still in excess of the requirements of the Province, the numerical comparison ceases to have any weight. But the fact of chief significance about the progress of education of Bengal is that the numbers is not found to be in excess of actual requirements. It is true that public offices are besieged by candidates applying for appointments, but there is nothing extraordinary in that. The public service is still on the whole the most attractive form of employment by reason of its security, the prospects of promotion which it offers, and the certainty of a pension at the end of approved service. But as very few of the candidates succeed in gaining a Government appointment, the necessary result is that they have to offer their services and qualifications in other markets, and for lower pay. It is a fact of common observation that where twenty years ago an Entrance candidate was accepted, and ten years ago a First Arts candidate, a Graduate can now be secured with little or no increase in the pay first offered. This is to say the spread of education in India as in other countries means that the higher work of the country is performed by a better educated body of men, and therefore as a rule more efficiently performed. I see no reason whatever for any apprehension being felt on this ground. True, there may appear to be room for discontent when the Graduate finds that his degree is not the same passport to employment, nor of the same market value, as it was in past years; but this, I think, is only seriously felt if his case is an exceptional one. When, on the contrary, he finds the majority of his fellows in like case with himself, he knows that he has to accept the situation brought about by an inevitable change. And beyond all this, there is the far higher consideration to which I referred two years ago, when I quoted Sir Alfred Lyall's words of twenty years earlier: "England's prime function in India is at present this—to superintend the tranquil elevation of the whole moral and intellectual standard." The

intellectual standard of our students is manifestly being raised by the University; we would fain hope that their moral standard is being raised too. We can therefore, as I then remarked, look forward with absolute serenity of mind to a future when the higher education will be so widely spread as, on the one hand, to furnish no ground for any specific claim or any individual grievance, and on the other, to afford the best and the only possible guarantee of such an intellectual and moral education of the higher classes in Bengal as Sir Alfred Lyall had in view.

There is another fact of some significance to be noted in connection with the spread of higher education. It is well known that, with very few exceptions, the great development of education in the last thirty years has been due to the establishment, not of Government colleges but of colleges under private and chiefly under Native management. It is not, as is sometimes alleged, the Government which is giving an artificial stimulus to high education by the multiplication of its colleges; it is the Native community which itself provides ampler means and facilities for the acquisition of learning. The Government chiefly devotes itself, on the one hand, to the improvement, up to European standard, of the education imparted in its existing colleges; witness these magnificent laboratories for the study of physics and chemistry which have placed the Presidency College of this city in the first rank amongst institutions for the teaching of science in any country. The Government devotes itself, on the other hand, to the spread of primary education among the masses of the people, with such steadily growing success that at the present time considerably more than one-fourth of the boy population of Bengal is receiving instruction at school. No, it is not to the direct efforts of the Government that the spread of collegiate education is due; it is due to the intelligence and enterprise of public-spirited individuals or bodies among the Native community. It is they who have gauged the extent of the demand and with the expenditure of time, of energy, and in many cases of money, have met that demand as it arose. And it is a gratifying reflexion that those who have interested themselves in opening new colleges are now doing what they can to improve the standard of instruction imparted in them. Quite recently the heads of certain colleges in Calcutta under private management addressed a joint letter to the Syndicate, stating that they had determined to raise the fees in the higher classes of the colleges under their charge, and expressing the hope that the Syndicate would approve of their action, and grant them its sympathy and support by discouraging proposals to charge fees at any lower rate on the part of institutions that might hereafter come into existence. Both the Syndicate and the Governor-General in Council

have approved of this proposal. Its object, as I regard it, manifestly is not to increase the profits of these institutions, since colleges charging whether low or high rates of fees cannot in these days be conducted at a profit; but rather to enable their managers to strengthen the professorial staff in the interests of their students. Such a movement as this deserves and cannot but secure the cordial sympathy and co-operation of the University.

When I had the honor of addressing the Senate a year ago, I dwelt at some length on the precautions that had been taken by the Syndicate to secure, so far as this might be possible, by rules of uniformity in the standards of examination from year to year. Our shortcomings in this respect have since been conspicuously brought to public notice by a diagram published in the *Calcutta Gazette* in connexion with a Resolution by the Government of Bengal on the Provincial Educational Report for the last official year. The diagram shows by means of dotted lines the fluctuations in the percentage of success at the chief examinations of the University for the past seven years. And truly, when taken through that long period, the range of variation presented to our view by this candid critic of our shortcomings as a University—in which phrase I of course include the shortcomings of candidates as well as those of examiners—furnished a sufficiently formidable indictment. For our insolation, however, I may remark that the fluctuations shown in the earlier years of the period are much more marked than that of the last year, when our precautionary rules were in full operation. I have now to report, for the information of the Senate, that still further steps have recently been taken in the same direction. In the first place, the Syndicate have decided to appoint Head Examiners in the various subjects for the First Arts as well as for the Entrance Examination. A good deal of opposition was raised to this proposal, on the ground that examiners of mature experience, such as those who are commonly appointed to conduct the First Arts Examination, need not be subjected to the same measure of check and control by a Head Examiner as has been found necessary at the Entrance Examination. The proposal, I repeat, met with considerable opposition both before and after its adoption; it was carried in the Syndicate by a narrow majority and some of those who were appointed examiners have since resigned their appointments. It may therefore be considered for the present as being in the experimental stage; and possibly the results of the examination just concluded, the first to which the new rule was applied, may throw some light on the propriety of retaining it permanently.

Another rule of considerable importance affecting the B. A. Exami-

nation has recently been sanctioned by the Senate. Complaints have from time to time been made that at the B. A. Examination questions have been set aside the prescribed limits of the subject or that undue attention has been paid in the questions to the less important parts of the course, or that the questions were in other respects open to objection. A Board of Revising Examiners is therefore to be appointed for the future, whose duty it will be to see that the questions set by each examiner in his particular subject are not open to any of these objections. The carrying out of this Resolution will not, I fear, be free from difficulties, but I trust that means may be devised for surmounting them.

Little need be said regarding the results of examinations in Law, Medicine, and Engineering. There is no lack of institutions for teaching the course in Law: and the number of successful candidates for the degree of Bachelor in Law rose last year from 110 to 145. For Medicine and Engineering there is only one affiliated college in each case; the obvious reason being that hospitals and workshops of the requisite standard of excellence can only be maintained at great cost, and on a scale to which the resources of Government alone are generally equal. And it is clear that without adjuncts of this kind, up to a high standard of completeness and efficiency—unless we have a hospital equipped with all modern improvements, whose wards are filled with a constant succession of patients suffering from a great variety of diseases, or again unless we have the appliances and machinery which a good workshop in full swing provides—the instruction that can be imparted in the subjects of medicine and engineering will be shorn of all that gives it practical value.

There was a fair increase, from 16 to 28, in the number of those who passed the final examination in Medicine. But when we compare this final outturn with the large number of students in the Medical College—more than 500, I believe—it is clear that there must be very serious wastage occurring at some points of the course. It has been ascertained that large numbers of students leave the College about the middle of the five-years' course on finding that they have no aptitude or not sufficient industry for medical studies. Three or four years of their time have therefore been absolutely thrown away. The Government of Bengal has accordingly decided to introduce a test-examination of the students of the College at the close of every year in which an examination of the University is not held; and I have little doubt that this will supply the students with a much needed incentive to industry from the outset, and will also have the effect of sending up a larger number of better prepared students to the examinations of the University.

The financial position of the University is satisfactory. Unlike some other Indian Universities, we ask for no contribution from Provincial or Imperial revenues; our fee fund enables us to pay our way and also to put something by for emergencies. Within the last four years, the fee fund has contributed Rs. 1,20,000 to the reserve fund, and the balance at credit of the reserve fund now stands at Rs. 2,35,000. All this and much more is needed if the University is to occupy a sound financial position with regard to future calls upon its resources. An extension of the University buildings will probably be needed before long; and questions like the establishment of University Professorships or the endowment of research can only be taken up when the reserve fund is much larger than it now is. I may mention that under recent regulations the Premchand Roychand studentships are now applied to the promotion of research. The studentships, which are of the value of Rs. 1,400 a year for five years, are now awarded in the first instance for a term of two years, during which the student is expected to carry on some special investigation or work in the subjects in which the scholarship was awarded, namely literary subjects and scientific subjects in alternate years. At the close of the first period, the studentship is awarded for a further term of three years, provided the student satisfies the Syndicate that he has carried out such investigation or work, and engages to continue it during the latter term of the studentship. This regulation was brought into force three years ago, and as yet it is too early to anticipate its results.

The past year has not left us free from the vicissitudes which attend all human institutions, and we have again to deplore the loss of many of our Fellows who have been removed from us by the hand of death. To those whose work among us is over, a few memorial words are due.

The dignified and venerable figure of Rajah Siva Prasad of Benares was not a familiar presence within these walls, but he has left behind him a name and an example which all may emulate and profit by. In his early years Sir William Muir wrote of him:—"Siva Prasad surpasses all his fellow-countrymen that I have met with in highness of moral and intellectual aspiration, and in mental cultivation." Fortunately for the people among whom he lived, he was induced to accept an appointment under Government, at first in the Political Department, but latterly, and for the best years of his life, in the Department of education, in which he rose to one of the highest posts. He was a strenuous advocate of the vernacular education of the masses, and he made his personal influence closely and most beneficially felt over a wide tract of country and among a large circle of subordinates. His uprightness,

his devotion to duty, and his conspicuous services to the Government secured for him the title of Rajah, a Companionship of the Star of India, and a *jagher* of nearly 2,000 acres of land. His personal bravery was attested by the war medal bestowed on him for intrepid conduct in the field. " I declare from my inmost conscience, " wrote an English friend to him 60 years ago on his retirement from the service, " I declare that I never knew you to do anything which now in my old age I would wish undone, nothing crooked, nothing low, mean, or dishonourable, or that was not marked by the strictest rectitude and integrity, and by conscientious regard for the masses of the people with whom you and I had to do. "

Of the late Dr. Troilokyanath Mitra, I cannot do better than read the Minute in which the Faculty of Law recorded their sense of the loss which the University had sustained by his death :—

" The Faculty have heard with deep regret of the sudden death of Dr. Troilokyanath Mitra. Dr. Mitra obtained the highest distinctions of the University in Arts and in Law, and adorned them in every sphere of life he was called on to occupy. One of the foremost members of the Faculty, he worthily represented them more than once in the Syndicate, and was their President-elect for the ensuing year, when he passed away. As a member of the Bar, he was distinguished for his sound knowledge of law, for his effective advocacy, and for thorough conscientiousness in the discharge of his duties. His lectures on " The Hindu Widow " are among the most valuable in the Tagore Law Series. The Faculty resolve to place on record their deep sense of the loss they have sustained by his death, and their high appreciation of his character and attainments."

And in the Senate the following tribute was paid to his memory : —

" The Senate could not allow the occasion to pass, without giving expression to their deep sense of the great and even irreparable loss which not only the University but public bodies generally, and indeed the entire community had sustained by the untimely and sudden death of Dr. Trailokyanath Mitra."

The tragic circumstances attending the death of Mr. A. M. Nash will be fresh in the minds of the Senate. A man of distinguished ability and unwearied industry he devoted his leisure for many years to elaborate researches into a most interesting and difficult branch of pure mathematics, the Theory of Numbers. His contributions to some of the leading mathematical journals of England were well known; and had he lived, his investigations would in all probability have widely extended the bounds of that fascinating science which he had made his own He was not a frequent speaker at our meetings, but whenever he rose too address us, his brief utterances were marked by the strongest common sense. On his resignation of the office of Registrar, which he held for more than two years, the Syndicate placed on record a gratifying tribute to his services.

The death of Mr. W. H. Jobbins, late Superintendent of the Calcutta

School of Arts, inflicted a grevious blow on the progress of art-education in Bengal. He was not only a painter of high merit, but a teacher who threw himself with enthusiasm into the important work of his school. The rapid increase in the number of his pupils and the high quality of the work turned out by them—work which attracted the admiring notice of more than one Viceroy, and was declared to closely approach in some branches the highest European standards—testified to that success of his efforts in the development of industrial art in Bengal.

While other men might inspire admiration for the brilliancy of their qualities, the chief characteristic of Krishna Bihari Sen was that he was loved. I do not remember to have witnessed at any time a more spontaneous and genuine outburst of feeling than was evoked by the news of his death nine months ago. In him I lost a personal friend of many years for whose unassuming goodness and the rare sincerity of his character I had a profound regard. He seemed to breathe a purer and serener air than most. No persecution daunted him, poverty did not disturb him; of these afflictions too he had his share. He lived his life quietly and harmoniously; striving after the free and equal development of all his faculties, moral, intellectual and spiritual; governed throughout by a high ideal. In his work as teacher he was inspired by lofty aims. Far beyond the range and scope of examinations, which bound the vision of too many teachers, he felt a keen, almost a painful responsibility for the welfare of the young lives committed to his charge, for the development of their characters along the lines of uprightness and honour. Every incident of college life supplied him with a text upon which to preach a brief sermon by the way, trying with his heart to inspire his pupils with his own love of goodness and truth.

Graduates of the Calcutta University—such of you as have received your degrees this day, and to whom, in accordance with recognised precedent, I should now address a word of counsel and encouragement—to you I would say study the life and humbly emulate the character of Krishna Bihari Sen, a man as great to my mind in some respects as his greater brother. His life affords an object lesson within the reach of all which all may study, and all who do so will study with profit.

At the conclusion of his address the Vice-Chancellor declared the Convocation closed, and the procession left the Hall in the same order in which it entered.

THE TEACHING OF ENGLISH READING TO NATIVE STUDENTS.

The above is the subject of the paper read at the meeting of the "Teachers' Guild" on the 23rd March 1896, by Mr. A. A. Hall, Principal of the Teachers' College, Saidapet.

"I have chosen for my subject this evening the teaching of English Reading to Native Adults. At Saidapet every year I have 60 or 70 students come to me for training. All have passed at least the Entrance Examination of the University and the majority the B. A. degree Examination. It might reasonably be supposed that, since the English language forms a prominent and necessary portion of the various examinations leading to the degree, and all the papers in the final examination except the vernacular language papers have to be answered in English, the successful candidates would be able to read English fluently and also to understand what they read. Yet my experience is just the opposite. Few, if any, have any idea of reading English correctly, and not one is able to read in such a manner as to give pleasure to his listeners. The reason is, I believe, that, because the University does not demand any sort of proficiency in reading, the subject is altogether neglected. Nevertheless, it must be evident to all that good reading should be cultivated not only for the pleasure it gives to the reader, but also for the pleasure it gives to his audience. Since my time is limited, and a discussion is to follow this paper, I propose at once to examine the defects generally noticed in the reading of educated natives, and to suggest what experience has taught me to be the efficient remedies. To many, the faults pointed out may seem of no importance, and the remedies I suggest may seem trivial, but it is these very minutiæ that, to English ears, mark the difference between an Englishman reading and a native reading.

The first thing that strikes an Englishman on hearing Tamil or Telugu spoken is the very rapid rate at which the sounds follow one another. It seems bewildering and quite inimitable. So also when a Tamil or Telugu man speaks or reads English, he invariably does it far too fast—much faster than an Englishman would. Too much importance cannot be attached to the remedying of this fault. English boys are told at school that to read slowly is the first good point, from which all other good qualities may follow. The method by which I try to get students to read slowly is an old one, but it is very effectual. I give a value to each of the stops (*i.e.*) to a comma, one, a semi-colon, two, a colon or full stop, three, and a fresh paragraph, four.

I insist on these stops receiving their full value when the student

is reading, thus: "On the continent of Europe (1) the odds were against England (1-2-3-4). We had but one important ally (1), the King of Prussia (1-2), and he was attacked (1) not only by France (1), but also by Russia and Austria." After a little practice of this kind, the student acquires a habit of reading slowly and consequently he reads much more effectively.

The next common fault is one of pronunciation. The Dravidian languages have no sound corresponding with our sound *aw* as in my name *Hall*. I am called *al*; in the same way *lord* becomes *lard*, *nor* becomes *nar*, *for* becomes *far*. In this instance, the first thing to do is to make the student conscious of the difference between the true and the false sound by repeated examples. Then I give a practical explanation of the manner in which the sounds are caused. At the top of the throat, a *V* shaped piece of flesh is felt which rises considerably when we swallow. It also rises when we say *far*, *nar*, *lard*, &c., but not when we say *for*, *nor*, *lord*, &c. Thus by keeping the *V* shaped piece always down, it is impossible to give the wrong pronunciation. By practising in this way for some time, the new sound is acquired and with care to pronounce it rightly, it becomes a habit.

The next fault also arises from the difference between the Dravidian and the English languages. The former do not generally permit of a word beginning with a vowel being pronounced without placing a consonant before it. The consonant யெ is usually placed before words beginning with a vowel. When a native speaks English, he also makes use of this யெ, wrongly of course. Thus we hear *yeight*, *yevery*, *yany*, &c. To remedy this I point out the cause and by examples show the correct and the incorrect side by side. The யெ must be pronounced by bringing the teeth nearly close together, whereas the vowel sounds require the teeth open. A little practice puts this right, although it is one of the most common and objectionable faults. The Dravidian languages also have a peculiar manner of expressing emphasis. It is by placing a stress on the *last* syllable, thus *Rajah* becomes Rajaw. Native students also frequently place a stress on the last syllable of words closing a sentence or paragraph. For instance, "The nation was in a state of angry despond*ency*, almost unparalleled in hist*ory*." The accents are placed on *cy* and *ry* respectively. By the teacher emphasising and exaggerating this fault, the student readily sees the absurdity of it, and in a short time it disappears.

In conclusion, I have not attempted to even touch on the whole art of reading. I have simply pointed out the most prominent and common mistakes made by educated natives, which I think only require to be drawn attention to, to be effectively remedied.

TRAINING OF TEACHERS.

To any one enquiring into the various systems of Education in vogue in England, on the Continent, in America, and in India, the first point that he will see coming into prominence is the very great importance in all these systems that is attached to the training of teachers. In England there was practically no elementary education of any description till the beginning of this century. In 1839, Government granted £10,000 to each of the great Societies founded by Churchmen and Dissenters respectively (the National Society of Education and the British and Foreign Bible Society). The dispute as to the origin of the monitorial system, the invention of which was claimed by both Bell and Lancaster, gave a great impetus to Education, and it may be said that, from this date, primary education in England advanced very rapidly. Fortunately from the very first, the Privy Council on Education saw the necessity of having good teachers; and just as rapidly as Primary schools were built, Training Colleges came into existence, so that the teaching in Primary Schools in England has always been very good. At the present time, the verdict of foreigners interested in Education and experienced in the different systems of training practised in all countries is that the teaching of the national school-masters of England is as good as any in the world. In Germany, the most highly-educated, perhaps, of all European countries, not only is very great attention paid to the training of teachers, but no teacher is allowed to teach in any of the schools without first having obtained from Government a certificate of competency. Pestalozzi's institution at Yverdon was for years the attraction of German, Austrian, and Swiss schoolmasters, who wished to become famous in the profession. In America too there is a great desire on the part of all teachers to be trained. Every State has its educational organ published weekly, and the internal evidence of these journals shows that the contributors are essentially practical men, who thoroughly thresh out every new method and contribute all they possibly can to making better the older methods. Coming to India, we see the same spirit manifested by those who were responsible for the beginnings of English Education in this country. The Despatch of 1854, three years before the Mutiny, not only insists upon the importance of educating the people of India, but more particularly insists on the necessity of a thoroughly competent teaching agency. "We desire to see," says the Court of Directors in the Despatch of 1854 "the establishment, with as little delay as possible, of training schools and classes for masters in

each Presidency in India," and the Court further says: "By giving to persons who possess an aptness for teaching, as well as the requisite standard acquirements, and who are willing to devote themselves to the profession of schoolmaster, moderate monthly allowance for their support during the time which it may be requisite for them to pass in Normal Schools or classes in order to acquire the necessary training, we shall assist many deserving students to qualify themselves for a career of practical usefulness, and one which shall secure them an honorable competence in life." The establishment of training schools does not seem to have progressed as favourable as Government wished, for we read in 1859 that "the institution of training schools does not seem to have been carried out to the extent contemplated by the Court of Directors." It is the purpose of this article to trace the efforts that have been made in each of the Presidencies to carry out the wishes of Government.

First with regard to Madras. In this Presidency missionary effort has perhaps done more for Education than both Government and private effort; therefore it is not a matter of surprise that the missionaries were the first in the field in the matter of training institutions. As early as 1853, a grant of Rs. 5,000 was given by Government to the F.C.M. Training School in Madras. This school trained both male and female teachers for employment in Christian Schools. In 1856, Government established the Madras Normal School, which has since become the Teachers' College. Mr. A. J. Arbuthnot, the then Director of Public Instruction, said:—"It is, I believe, the only establishment for training teachers which has as yet been organised in India on anything like a competent scale." The school does not seem to have been popular, for scholarships of Rs. 15 to Rs. 30 failed to attract promising students. In 1859, Government established five Normal Schools and the Missionaries two for the training of primary teachers. These schools were well attended but it appears from the remarks of Mr. Arbuthnot that they also failed to get the best of the teachers. Most of the men who came expected to find employment in Government schools, and if they were disappointed, they left the profession. About this time, Government gave a great impetus to the training of teachers by promising a better grant to the schools under the care of those who had obtained normal certificates. The examination for these certificates was conducted just as it is now. Papers were set in Method and the successful candidates taught a class before the Inspector of Schools. On the result of this last examination, a certificate was granted. For many years, the management of these Training Schools was in the hands of Government and Missionaries. The greatest difficulty was experienced in getting good men to

come for training, so much so that the principal work of the normal school at Madras was the preparing of students for the various University examinations. It was not until 1872 that Government decided that the training of teachers should be its principal object. This led to good results. In the mofussil schools, the same difficulty was experienced. Unless a general education was given at the same time as a professional training, the schools failed to attract educated men. In 1878, a further step in advance was made. The Madras Normal School was not permitted to train primary teachers. Only those who had passed the Entrance University Examination were permitted to enter, and all primary training was done in the mofussil schools. The admission was restricted to students who were sent from some recognised school. At this time, Colonel MacDonald, the then Director of Public Instruction, was dissatisfied with the results of the various Training Schools. He thought perhaps that they would be more efficient and more popular with the educated classes, if their management was transferred from Government to elected bodies, such as Local Boards. He, therefore, pressed Government to allow money to be applied from Local Funds to the establishment of Training Schools in each district, and he also addressed the Presidents of different Local Boards, impressing on them the necessity of opening Normal Schools, if they wished education to flourish in their districts. The appeal was most successful. Coimbatore first responded, and in quick succession, 11 more normal schools were opened by Local Boards, and Government at this time opened a special training school for Muhammadans at Madras. It would have been impossible for Government to have provided funds for all these schools, and it seems a fair and just principle that localities should pay for the education given in their midst. One noteworthy thing about Education in the Madras Presidency is that, however much the people may complain about taxation, they never seem to grudge any money devoted to the cause of education.

(*To be continued.*)

INTERROGATION—A METHOD OF TEACHING.

There are broadly speaking two methods of teaching a subject during a course of school-instruction—the method of lecturing and the catechetical method. In the former the teacher employs a course of continuous address and the pupils are mere listeners. The teacher employs words and expressions most familiar to his hearers and his aims are to be

most perspicuous and copious in his statements and expositions. The case is different when he uses the latter method. The teacher questions and at every instant is enabled to see what his pupils have known and whether they have rightly understood what they have heard or read ; and when he discovers a deficiency or a fault he at once proceeds to devise how best to supply or remove what he has discovered by means of his interrogation. It has been accepted by all teachers that lecturing is unsuitable as a method of *school* instruction, those requisites being absent or not fully developed in the pupils whereby continuous direct address can become beneficial to them.

In lecturing as well as in catechizing, two things are most essential which the teacher should endeavour to secure. First, simplicity of language. It is absolutely essential that the teacher should bring himself down to the level of his pupils and express his facts and ideas in such homely and expressive language as will facilitate reception by the pupils and subsequent imitation by them. It will not be too much to ask the teacher to talk in the way the pupils themselves express their ideas. Next, the interest of the pupils. Success in teaching depends in a great degree on the interest that the pupils take in the subject under teaching. There are some subjects which for various reasons are more pleasing and interesting to the pupils than others. In teaching, the secret lies in investing even dry subjects with a suitable amount of interest and no method affords greater scope for doing this than the catechetical method, by which, not only are the uniformity and tediousness felt in the other method done away with but a kind of simultaneous attention is promoted, by which, each pupil becomes an active instrument in his own instruction and begins to take a lively interest in what is placed before him.

We will just mention two or three points that are important in reference to the value of interrogation as a method. Interrogation, it used to be said, is more a method of examination than one of instruction, but it is often employed as a means of imparting knowledge. Its values are manifold and it is of great importance in education.

1. It ascertains the pupils condition of mind. Questioning is to the teacher what pulse is to the physician and sounding lead to the sailor. A skilled teacher by means of a set of well-framed questions finds out precisely what his pupils know regarding a subject and whether they know it accurately or otherwise ; and also gathers a knowledge of their capabilities. One of the prominent points in the elements of a teacher's character is his power of knowing and following all through the lesson the current of his pupils' thoughts. "It is in fact the great secret of intellectual development that the teacher should know what is going on

in the mind of the child. If he has sympathy enough for this and tact to direct his explanations or put his questions accordingly, his success will be brilliant. He will leave no dark spots in the first elements of knowledge, obscuring all subsequent acquirements."

2. It communicates knowledge. By means of interrogation the teacher, as it were, works in light, can tell step by step how far his teaching is adapted to the needs and capacities of his pupils, and whether there is an intelligent appreciation of his exposition; and if not, he can readily discover at what particular part the difficulty arises. Then he can accommodate his efforts to the exact needs and thus carry the pupils along with him. "I was brought to the firm conviction that all instruction to have a truly enlightening and cultivating influence must be drawn out of the children and, as it were, begotten in their minds." (*Pestalozzi.*) Though this presents the most extreme view regarding the value of interrogation, it can nevertheless be safely asserted that interrogation is a sure auxiliary in the communication of knowledge.

3. It cultivates the mental power. The old method of teaching was to give the greatest exercise to memory and make the pupil a passive learner. But interrogation exercises all the faculties; it quickens the observing powers and sharpens perception, and while the faculties are improved a large amount of precise knowledge is acquired. Further, it draws out the mind and leads it to reflect and deduce truths. A direct question involves a logical process in the mind; in answering a question, the pupil must form a definite idea and find the apt answer to the particular question. This process favours the formation of a clear conception, the pupils must think to obtain definite ideas and by arguing in their own minds must compare and judge. Questioning is also most favourable to the formation of attention, for each question is one of a series, and the mind is compelled to keep in view what has gone before; and this state of attention is a sure sign of mental activity and will lead to eventual promptness in arriving at conclusions.

THE MADRAS TEACHERS' GUILD.

BY THE REV. F. W. KELLETT, M. A.

The Guild has made a promising start. In every department it is true we are but at the beginning, but that beginning is encouraging. The number of members stands at 171 excluding Associates and a large number of applicants for membership. These members represent 43 different institutions, including all the Arts Colleges and almost all the

larger schools of the City. At the same time, the smaller institutions are well represented, and it is evident that the Guild may not unreasonably claim to be the mouth-piece of Madras teachers. The warm support given to it by Dr. Miller and Dr. Duncan at its first two meetings cannot fail to be a source of strength to it, but it is not without significance as showing that the Guild springs out of a felt want that so many as 171 members had joined the Guild before this support was promised. The Guild has felt that in view of their services to education it was showing only fitting respect for these two gentlemen, and Mrs. Brander and Miss Carr, in asking them to become its first Honorary Members. The Guild has already held two Meetings, both of a social character, by way of opening its Rooms. The attendance at each was gratifying. It is now looking forward to its first ordinary meeting which is to be held on March 23rd, when two papers will be read by Messrs. Stone and Hall, on "The Teaching of Writing," and "The Teaching of Reading." It seems probable that, as a rule, at the meetings two or three short papers will be read and discussed rather than that the whole time will be taken up by a lecture.

The Guild Rooms have now been in use for some weeks. On Monday, Wednesday and Friday of each week, from 5 P. M. to 7 P. M., a room in the Wesleyan College, Royapettah, and on Tuesday, Thursday, and Saturday, the Library of the Christian College—generously lent by the authorities—are open to the members. At present the supply of papers and periodicals is not so abundant as might be desired, but in another week probably it will be increased by the receipt from England of the journals ordered thence. The Guild-rooms will then furnish a reading-table superior in its own kind to any in Madras. At present the *Mail*, the *Times*, the *Hindu* and other papers—mainly educational—are given by various sympathetic donors. The Library is still in its infant stage. Messrs. Srinivasa Varadachari and Co. have given an almirah containing their publications. Similar gifts from Macmillan and Co., and Longmans, Green and Co., are being prepared and will soon be found in the Guild Rooms; and other contributions may shortly be expected. The rooms have proved highly attractive to the members who frequent them but there are very many who have not yet tested their advantages. Some of the games provided have been well patronised.

A scheme for a Registry of Teachers has been prepared and will be laid before the next Guild Meeting. It is hoped that, before the end of the term, this important department will be in full working order.

Two most beneficial additions to the Guild's organization are being held over till the Guild itself is registered—the Museum and the Teach-

ers' Provident Fund. The latter will need the most cautious dealing, to make it successful, but if the Guild flourishes, all difficulties can be surmounted; and certainly until such a Fund is established upon a sound basis, the Guild cannot be considered to be complete.

Another important task that awaits the Guild is the organization of branches. If it is to become as Dr. Duncan suggested a great central organization federating the numerous teachers and societies throughout the Presidency, it will need some adaptation to fit it to discharge this new function. But this can be done, and doubtless will be done as experience shows the way, and as the Guild and the Mofussil organizations come to recognise their opportunities of mutual helpfulness.

The Hon'ble Dr. Duncan's speech. He congratulated the Guild on the opening of this portion of its operations, though he understood that the real opening ceremony had taken place last week at the other end of Madras. For the convenience of teachers on this side of Madras, it was thought desirable to have a Guild room here. The President and Council had done him the honour—seeing he could not attend the opening ceremony last week—to ask him to be present on this occasion. He could assure them it gave him great pleasure to be present at the opening of the Guild room in this portion of Madras. The Guild had to be congratulated on the excellent start it had made. It was only a few months since the matter had been spoken off in earnest and now they sit a body with its regulations drawn up and its operations begun and carried on successfully so far. It had long seemed to him that a Guild something like the present one should be formed in Madras, and he was glad during his term of office as Director of Public Instruction to see such a Guild started and successfully carried out. He thought that people were apt to overlook the fact that teaching was a profession as well as that of Law or Medicine, both of which were recognised in India and the members of which realised the desirability of associating themselves together for the purposes of common weal with the profession. In Great Britain, Associations of Teachers had existed for a long time and powerful Associations they were. For instance, there was the Association of Elementary Teachers which had done an immense deal of good in inculcating on the public the importance of elementary education. It had also done a great deal in regulating the operation of the Department of Education and in influencing Parliament. In fact, so powerful was this Association that at present one of its former Secretaries was a Member of Parliament who recently sat on the Royal Commission on secular education. This showed what could be

done by teachers combining and discussing matters and making people understand that the teaching profession was naturally on the same level as Law, Medicine or Theology. Then in his own native land there was the Educational Institute of Scotland which had existed many years and was an influential body whose opinion was asked and listened to with respect in every matter connected with education in North Britain. Then they had the other Association, which possibly suggested the name of the Association out here, namely, the Teachers' Guild, which had its headquarters in London and branches scattered throughout the country. He remembered perfectly when that Guild was formed and he had watched its proceedings since; it had attained great influence in every part of the country. It seemed to him, therefore, if these Guilds had prospered so well in Great Britain, there was no reason why they should not prosper equally well out here. He was quite sure if there were any reason for their existence in Great Britain, the reason was still more powerful in this country. But when he said he was glad to see an Association started here they must not overlook the fact that there had been an important Association existing in Madras for some years. He referred to the Association of Women Teachers, of which Miss Keeley had been for many years the President and guiding spirit. Now while he congratulated the members of the Guild that they had been able to make so successful a start, he would not have them too proud or puffed up on that account. They had only followed the lead already set them many years ago. Except on one memorable occasion, ever since the world had been formed the ladies had always led the way in doing good. He could assure the Guild that just as they had followed the example of the Women Teachers in forming the Guild, so if in matters that came before the Guild they sought the guidance and advice of the lady members of the Guild he was quite sure they would not go very far wrong. This mention of the Women Teachers' Association had reminded him that he ought to say a word or two with regard to the future position of that Association. He hoped that it was not intended that that Association should lose its separate individuality. That Association consisted of many Hindu and Mahomedan teachers, and while it was necessary that everything should be done to encourage them to come and assist with their fellow-teachers to improve the methods of teaching forward and everything relating to the profession, it was feared that on account of their shyness they would not for many years be willing to come forward and take part in the proceedings of a large strong masculine Association like the Guild. For the sake of these teachers, who would naturally keep in the background in a large Association like the Guild, it was desirable that the Woman Teachers' Association should retain its indi-

viduality for some years to come. But at the same time he would not like it to stand altogether apart from the Guild. He thought the Association of Women Teachers would gain much by its connection with the powerful Guild that had been formed. He referred to this because the Lady President of the Association of Women Teachers felt that the Association, the interests of which she had so much at heart, might suffer by the Teachers' Guild being formed. He would therefore ask the President and Council of the Guild to take the matter into their serious consideration and see whether they could not allow the Association of Women Teachers all the advantages the Guild could give, and at the same time allow it to retain its separate individuality at all events for some years to come. Besides the Association of Women Teachers in Madras there were many Associations of teachers in the Mofussil. He was glad to see from one of the Rules of the Guild that provision was made for having branches and for affiliating men and women teachers to the Guild. There were a great many Teachers' Associations throughout the country which, however, were very weak and very much in want of life, and in want of a guiding hand to help them, and he sincerely hoped that this Guild would endeavour to bring together, as it were, all the scattered Associations of teachers throughout the country so that they might have the benefit of the friendly counsel, help and generous support which a large Association like the Guild could offer. He need not speak of the benefit the Guild was likely to give those who were its members. These were set forth in the regulations and all he could say was that he cordially sympathised with these objects and he hoped they would be able to realise them. There could be no doubt that the professional status of teachers would be greatly raised in the estimation of the community by the formation of a Guild like this. Where there was a wish to improve each other and the methods of teaching, there was no doubt that the experience of older teachers acquired in past years would be freely placed at the disposal of the younger members of the Guild. He expected to see as a result of this Guild the teaching profession take a place in the public estimation in this Presidency, which it had never yet occupied. Dr. Miller at the opening ceremony last week had sounded a note of warning suggested by his past experience of the formation of similar Associations, namely, that they were begun with great enthusiasm but in a short time the enthusiasm had died away and the Associations died a natural death. He was sure they had all taken to heart this warning and would see that the Guild at least would not follow on the path so many other Associations had done. He (Dr. Duncan) had not come there to sound any note of warning; but there was one thing that he would just mention as to be avoided, and that was to try not to

become a Trades Union. The Association at Home of which he had spoken, the Elementary Educational Union of Scotland, had often been criticised as having been nothing but a Trades Union. By "Trades Union" he referred to the bad sense of the term. He would strongly deprecate any attempt to interfere with their efforts to improve their position, prospects and status. What he meant by the Trades Unionism that was to be avoided was the looking at everything from their own narrow point of view and not from the point of view of the public. As long as the Guild looked at things from the point of view of the public there was no danger of its giving occasion for any one to say that it had become a mere Trades Union. One reason why he had cheerfully acquiesced in Mr. Kellett's invitation to be present that evening was that for a time at least there were some misapprehensions regarding the relations the Guild would occupy towards the Director of Public Instruction. He could only speak for that official as long as he occupied the position, and as far as he was concerned, he remembered that about 18 years ago he spoke to some fellow teachers about the formation of a Guild something like the one they were forming then. It was not received with much favour, and he had begun to despair of seeing anything of the kind realised in this country. All he could say now was if such a Guild had been formed when he was a teacher he would have been a member of it. The Guild would not be in opposition to the Department of Public Instruction for there was an identity of interest. The Director of Public Instruction as head of the Department had a deep interest in raising the social position of teachers, improving their prospects, improving their methods of teaching, &c., and anything that would tend to the improvement of the status, financial prospect, and general well-being of teachers must commend itself to the head of the Education Department. And not only was there identity of interests to prevent the Guild and Department from clashing, but he could assure them that he looked forward to receiving quite as much benefit from the Guild as they themselves would receive from it. He had said there could be no difference of interests between the Guild and the head of the Education Department and he had come there to express to them his very cordial sympathy with the objects of the Guild and to promise it his fullest support in its efforts to promote the welfare of the members of the leading profession. He did this without any qualification, he made this statement without any mental reservation. He came in the fullest belief that the result of the Guild and its deliberations would be for the good of education in the Presidency. There was only one thing that would lead him to withdraw his sympathy, and that would be for the Association to come to the conclusion that it was necessary for

the Guild always to agree with him in opinion. If the time ever came that the Guild felt it would never do to express a strong opinion because it would not be pleasant to him as Director of Public Instruction, he would ask them to take back the honorary membership of the Guild which they had given him.

EDUCATIONAL NOTES.

THE EDUCATIONAL REVIEW, (London):—In the demotic or public schools of Greece religious education is given in all the standards, four hours a week in the three lower and three hours in the three upper ones. The schedules for this subject are admirably arranged—far better than any suggestions ever put forward for the London Board Schools by Athelstan Riley. Not only is there much "moral and spiritual instruction, but there are also prayers and creeds and ecclesiastical history *ad libitum* set forth with a definiteness that may make even that enthusiastic partisan's mouth water."

* * *

A contributor to the *Educational Review* says of the Report of Royal Commission on Secondary Education. "The Report is excellent reading. Marginal headings will help you over hard places; and when once you are in it, it is as exciting as a novel. It is indeed admirably drawn up, admirably written; and even if nothing further came of it, which happily is impossible, it would remain an invaluable summary of the progress of Secondary Education in England up to the present date and of its condition at this moment."

* * *

The Council of the Senate of Cambridge University, in answer to memorials presented to them in favour of the admission of women to degrees, propose to submit to the Senate a proposition to the following effect:—That a syndicate be appointed to consider what further rights or privileges, if any, should be granted to women students by the University, and whether women should be made admissible to degrees in the University, and if so, to what degrees, on what conditions, and with what restrictions, if any; the syndicate to have the power to consult with such bodies and persons as they may think fit, and they are to report to the Senate before the end of the next Michaelmas term.

* * *

The following is from *The American Teacher.*

"Remember
That good use of language comes
From much practice,
From knowing what one wishes to say or write,
From a desire to say it well,
From having an object in saying it,
From noting how good thinkers say things;
From keeping the eyes open,
From keeping the mouth shut when there is nothing to say."

* * *

The *Education* for December 1895 contains several interesting articles.

In an article on the scope of Psychology for Normal Schools, the writer after premising that the scope of Psychology in the Normal School should be to lead students to become acquainted with the nature and laws of the learning mind, of the effect of various minds of instruction and discipline in the schoolroom, and of the limiting influences of heredity and environment upon the character of the children, and to discover present capacities and disposition of the pupils, contends that it should be limited to the Psychology of School Education. He complains that there has been much study of Psychology in the past, that is so far away from the problems of the schoolroom, that the work of instruction is not affected one way or the other thereby, and suggests the following outline of topics and method of study :—

"The influence of physical types and conditions upon intellect, emotions and will; the relation between mental conditions and activities and their physical expression; the determining influence of heredity and environment upon child nature in all its aspects; the nature of, and connection between perception, apperception, memory, reasoning and imagination, and the desirability of regarding all these as phases of the one general process of apperception; the influence of interest upon intellectual activity, and the tendency of experience to create and determine interest; the nature and kinds of emotions and will, and the connection between intellectual training and emotional and volitional activity; the relation between the circle of thought and character; finally, the psychology of individual and social life in the environment of teacher and pupils. The method of study should be concrete,—in the analysis of experience, in the observation and study of individuals in the student's environment, and of pupils while engaged in the regular work of the schoolroom. A text may be used as a guide, and to aid in stating principles that have first been observed concretely, or that may be illuminated and verified by reference to facts that can be observed. Lastly, there should be much definite, practical work in the study of children, so that the teacher may better understand child-nature, and may be able to determine the capacities of each pupil for the work of the class-room."

In another article on methods of study and instruction, the writer after enumerating the stages passed through in attaining the power of abstract thought, gives a few practical hints for teachers, suggests methods of removing opposition to study either hereditary or acquired, and enumerates the following methods for creating interest in study, which may be termed the novel, the familiar, the advantageous, the startling and the humorous.

* * *

Herbert Spencer never accepts a University degree nor any other honorary trade-mark from any society. He wants to stand wholly on his own merits or to be forgotten.

INDIAN NEWS.

BENGAL.

The one event in the educational world which has of late absorbed all our attention is the extraordinary dispute which has taken place between the Syndicate and the Registrar of the Calcutta University.

* * *

The origin of the dispute is paltry in the extreme. On Monday, the 27th January, shortly before two o'clock when the candidates for the Entrance Examination were seated at their desks ready for the afternoon paper which was about to be given out, and when consequently all strangers should have withdrawn from the place of examination, a young student of the third year class of the Presidency College named Sudhasu Mohan Bose was standing alone in the vestibule of the Senate House. The University durwan, finding on inquiry that this student was not a candidate, requested him to leave the hall, alleging that such were the orders of the Registrar. But the young man, who was beautifully dressed "in European style" and who was moreover the son of the Hon'ble A. M. Bose, a member of the Syndicate, declined to withdraw. At this point, according to his story, he was rudely pushed by the durwan. Hearing an altercation, one of the examiners came out of the Registrar's room and repeated the orders given by the durwan. A scuffle then took place, the boy striking the durwan in the face with a book—quite by accident, so he says. The blow was returned, and the noise continuing, the Registrar, Mr. Griffiths, came from his room in person and ejected Sudhasu Mohan Bose.

* * *

On Wednesday, the 29th January, the Registrar received from Mr. A. M. Bose the following letter:—

"DEAR MR. GRIFFITHS,

I regret that it should be my duty to have to write to you about an assault committed on a student at the Senate House yesterday afternoon by some of the chuprasis there. I have made inquiries about the matter and find that a cowardly assault was committed on him first by one of the chuprasis and afterwards by several of them. I must ask you for an immediate inquiry into the matter and the infliction of adequate punishment on the offenders. Be so good as to let me know if you will do so, as, failing this, I shall have to take other steps—an unpleasant necessity which I trust in the interests of the University itself will not be forced on me."

* * *

It is to be observed that the writer of this curious production omits to state clearly what assaults he is complaining of and conceals the fact that the "student" is his own son. He asks for "inquiry" and "punishment" in the same breath. The Registrar, accordingly supposing that the letter referred to the squabble which ended with the ejectment of the intruder under his own eyes, merely ordered an inquiry into those circumstances which took place before he left his room. He forwarded the results of this inquiry to Mr. A. M. Bose and stated that the durwan had only done his duty and deserved praise rather than blame.

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On Wednesday, the 5th February, Babu Umesh Chandra Dutt, Principal of the City College, and a Member of the Senate, addressed to the members of the Syndicate a further letter on the subject, requesting them to take such action as they might deem proper on five statements enclosed in his letter and calling attention to the allegations made therein regarding the proceedings of the Registrar. One of these statements was by the complainant, three by students of the first class of the General Assembly's Institution, and the fifth by a teacher of the City Collegiate School. The object of the statements was to show that a gross assault had been committed on the complainant in the verandah of the Senate House after he had been ejected. The allegations were many of them inconsistent and some of them impossible. But the most absurd of all the documents thus placed before the Syndicate was the certificate of the doctor who examined the complainant and having found "a contusion of the size of a two-anna-bit upon his left cheek bone" was able to conclude "from the appearance of the parts" that "this had been caused by some blows dealt upon his cheek by some chuprasis of the Registrar's Office." It is strange that this Bengali Sherlock Holmes

was not able to discover the names of the chuprasis with a little more examination of the two-anna-bit contusion.

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On the 8th February, this letter, with the enclosed statements and the doctor's certificate, came before the Syndicate for consideration. Mr. Griffiths naturally expected that they would at once consign such absurd documents supporting such a cock-and-bull story to the waste paper basket. To his amazement he found that his conduct was about to be impugned. Mr. Griffiths suggested that the question might be postponed till the return of the Vice-Chancellor, who was then absent. But the Syndicate would hear of no delay. He was asked whether a certain paragraph in the complainant's statement was true and he having declared it to be wrong was requested to withdraw. Mr. A. M. Bose having also withdrawn, the governing body of the University spent a whole hour deliberating over this paltry question.

* * *

After these wise men had deliberated a full hour, the Registrar was recalled and was informed that his action had been censured and a committee of inquiry appointed to inquire into the complaint. Two days later the Registrar resigned. A second meeting of the Syndicate was then called by the Vice-Chancellor to consider the Registrar's resignation, which the Syndicate refused to accept, while at the same time they refused to cancel their resolution or give their reason for it.

* * *

In these circumstances, the Vice-Chancellor called a meeting of the Senate for the 7th March. The whole matter was made public and was argued vehemently in the newspapers. As time went on, it became evident that the Syndicate would be defeated at the meeting of the Senate and that the best thing they could do would be to compromise the matter while there was yet time. So a third meeting of the Syndicate was held on the 29th February, at which the resolution censuring the Registrar was cancelled, and upon this Mr. Griffiths withdrew his resignation.

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The meeting of the Senate has therefore not been held but the matter will not end here. It has been widely felt for some time past that the discipline and standard of the University are being gradually lowered, and it is not improbable that efforts will be made in the near future to bring about drastic reforms in the governing body of the University.

The Annual Convocation of the University for conferring degrees, which took place while the dispute was at its height was a very tame affair. The Chancellor was absent owing to his recent illness, and the general attendance was very poor. The Vice-Chancellor's speech was unusually brief. He confined himself tor eviewing the past progress of education, largely due to private enterprise, and to obituary notices of those members of the Senate who died in the year 1895.

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The only sign of enthusiasm shown at the Convocation was the applause which greeted Miss Matilda Cohen when she went up to take her B. A. degree and the Padmabhati Gold Medal. Miss Cohen, it is understood, is reading for the Bar.

* * *

The following changes are sanctioned in the curriculum of studies in the Bengal Madrasas :—

(1) That Urdu be taught in the three lowest classes of the lower school;

(2) that Persian be taught in the two upper classes of the lower school (as it is in the Calcutta Madrasa);

(3) that Arithmetic be taught in all classes of the lower school through Urdu (or Bengali if preferred); and

(4) that English may, if necessary, be taught as an optional subject up to the middle English standard (equal to the 4th class of a high school).

BOMBAY.

We hear that a settlement for University women will shortly be opened in Bombay. Two ladies, Miss Marion Stone and Miss Ellen Stone, of Newnham College, are making the preliminary arrangements necessary for the inauguration. Two more ladies, Miss C. R. Rouse, Girton College, and Miss A. Selmeonte are expected to join them in the course of a few weeks. If the movement should give indications of success, more ladies from England will join them, and a branch college is intended to be opened at Nasik.

* * *

There were 684 candidates for the office of Subordinate Judge and Pleader in the High Court admitted to the examination held in the Town Hall on February 24th.

Rao Saheb Ganpatrao Gourishankar Shastri, Deputy Educational Inspector, Ahmedabad Sub-Division, has been granted privilege leave for six weeks from the 15th instant.

* * *

We understand that the complete rules and regulations for the Provincial Service Examination have been drafted and placed before Government and are shortly to be published. Though the subjects are simple, the standard will be found to be quite high enough to satisfy the most ambitious. Owing to the mistaken notion of the public and the local press that subjects such as ' English History,' ' Indian History,' &c., must necessarily be very elementary, the idea has become current that any fool can pass the new test. A number of students who have failed several times for the Previous are now working for the Provincial Service Examination in all seriousness. To them the new rules will no doubt be a sad disappointment.

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The Convocation of the University of Bombay was held on Tuesday, February 18th, the Vice-Chancellor presiding. The annual report was presented to the Senate by the Registrar. As regards the examinations conducted by the University during the Academic year, the following particulars may be of interest. In the University School Final, there were 1,603 candidates of whom 431 passed. In the Matriculation Examination which was conducted at five centres, *viz.*, Bombay, Poona, Ahmedabad, Belgaum and Karachi, there were 2,981 candidates, of whom 944 passed. The largest number of candidates were sent up by the following three schools, *viz.*, New High School, Bombay, 110, of whom 57 passed, in 1894 these numbers were 88 and 54 respectively ; Elphinstone High School 110, of whom 56 passed, in 1894 the numbers were 119 and 52 ; and New High School, Poona, 113, of whom 51 were successful, in 1894 their numbers were 116 and 60 respectively.

* * *

In the Previous Examination there were 816 candidates, of whom 400 passed, 56 from Elphinstone College, 21 from the Deccan College, 94 from the Wilson College, 47 from St. Xavier's, 8 from Guzerat College, 23 from Rajaram College, 46 from Baroda College, 72 from Fergusson College, 19 from Samaldas College, and 14 from the Sind College, Karachi. Of these 49 passed in the second class.

* * *

Of the successful candidates 308 were Hindus, 61 Parsis, 13 Mahomedans, 12 Portuguese, 4 Europeans and Eurasians, and 2 Jews.

In the Intermediate Examination, there were 443 candidates, of whom 240 passed, as follows. Elphinstone College 34, Deccan College 21, Wilson College 47, St. Xavier's College 44, Guzerat College 8, Rajaram 17, Baroda 17, Fergusson 37, Samaldas 5, and Sind 10. Of these 2 passed in the first class (one from Elphinstone College and one from St. Xavier's) and 45 in the second class.

* * *

Of the successful candidates, 176 were Hindus, 49 Parsis, 5 Portuguese, 4 Mahomedans, 3 Europeans and Eurasians, 2 Native Christians, and 1 Jew.

* * *

In the examination for the degree of B. A. (new rules) there were 178 candidates, of whom 115 passed. One student from Wilson College was placed in the first class, while 32 passed in the 2nd class, of these 9 being from Elphinstone College. The successful candidates were distributed as follows: Elphinstone College 22, Deccan 15, Wilson 36, St. Xavier's 19, Guzerat 1, Baroda 4, Fergusson 8, Samaldas 2, and Sind 94. Of these 75 were Hindus, 30 Parsis, 6 Portuguese, and 7 Mahomedans.

* * *

For the B. A. (under the old rules) there were 33 candidates, of whom 24 passed, 3 being in the second class. There thus remain 9 candidates over who failed to qualify at this their last chance as 1895 had been definitely settled as the last year of the old course. Of the successful candidates, 23 were Hindus and 1 Parsi.

* * *

On Monday, March the 2nd, the various Faculties met to elect their Deans and Syndics for the ensuing year. Principal S. Cooke was elected Dean, and Mr. H. J. B. Hargrave and M. W. C. Hughes Syndics in Engineering. The Rev. Dr. D. Mackichan was re-appointed Dean for the Faculty of Arts while the Rev. F. Dreckmann, S. J., was elected Syndic in Arts to represent the Physical and Experimental Sciences, while Principal J. T. Hathornthwaite, the Hon'ble Mr. Justice G. M. Ranade, C. I. E., and Mr. Rustomjee M. Patel were chosen as Syndics in Arts. There were seven candidates for these last three places. The unsuccessful being in order the Hon'ble Mr. M. Sayani, who tried with Mr. Patel in whose favour the Dean's casting vote fell, Mr. N. G. Chandavarkar, Dr. P. Peterson, and the Rev. Mr. Scott.

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In Law the Hon'ble Sir Charles Farren, Chief Justice, was appointed Dean and the Hon'ble Mr. Phirozshah M. Mehta, C. I. E., and Mr. M. H. Starling Syndics; while in Medicine, Dr. Cowasjee Hormasjee was elect-

ed Dean, and Surg.-Capt. C. H. L. Meyer and Dr. K. N. Bahadhurji Syndics.

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On Monday, March 9th, a meeting of the Senate was held in the University Hall when Sir Jamsetjee Jeejeebhoy, Bart., C. S. I., and Mr. Harkisandas Narakamdas were both re-appointed as members of the Board of Accounts for the ensuing year. The new fellows were next assigned to their separate faculties, when Professor O. V. Muller, M. A., proposed, as recommended by the Syndicate and passed unanimously by the Faculty of Arts, that the two subjects of History and Philosophy at the M. A. Examination should be separated and two independent M. A. schools formed.

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In a careful speech the proposer gave an account of the long struggle to free the study of History from the trammels of Philosophy, which was present in the course in such large quantities as to preclude all possibility of any great attention being paid to History. The enquiry culminating in this resolution had gone on for three years, and the proposed change had met with great opposition in certain quarters. As study in this branch of learning was now almost at a standstill, and students really devoted to History and who had made that their voluntary subject in the B. A. course no longer even attempted to take the M.A. History and Philosophy school, it was high time that something was done. The proposal was, after a brief discussion, carried *nem. con.* We understand that a feature of the new course will be special periods of Indian History to be studied from original sources, but the details are not yet settled. The new History M. A. course will be available for 1897.

* * *

Among the students who have joined Elphinstone College this year are three lady-students, two Parsees and a Jewess, the first two holding entrance scholarships. It is not often that the lecture rooms of the Presidency College are invaded by the fair sex, Wilson College being more popular in this respect. These two Parsee girls are the first of their sex to hold College scholarships, and the fact of their success over their many competitors speaks volumes for the increasing efficiency of higher female education in Bombay.

* * *

TheUniversity of Bombay grants diplomas in Agriculture, but while an L. C. E. and an L. M. and S. are styled graduates, the holder of a Diploma in Agriculture is not deemed to be of this standing. Now of all the many requirements for a 'perfect mamlutdar,' a knowledge of

agriculture is most useful, if not essential, and yet because the student in this branch is not styled a graduate he is not considered eligible for such a post. In justice to her children, our University ought to improve upon the arts test required, such as rendering the Previous Examination compulsory, and then class the diploma holder as a graduate.

MADRAS.

Mr. A. J. Cooper-Oakely took over charge of the Registrarship of the Madras University from Mr. G. Bickle on the 1st March 1896.

* * *

Continuing the policy of providing trained teachers for all classes of schools, Government have just sanctioned the opening of two Training Schools in the town of Madras, one for Hindu Lower Secondary and Primary teachers, and one for Panchama teachers. This last is a very important school, as it is the only institution of its kind in the Presidency, and it also shows the practical sympathy that Government has for this most backward caste. Both the schools are doing well with regard to the students for training, and the boys for the Practising School. They form an integral portion of the Teachers' College, Saidapet, and are under the direct supervision of the Principal.

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On the 15th February 1896, the students of the Agricultural College got through a long programme on the occasion of the annual sports. Many people from Madras and St. Thomas' Mount witnessed the various events. Mr. Keess, the Principal, had made ample preparation, and the college buildings, decorated with flags, formed a beautiful background to the many-coloured mass which surrounded the enclosure. The events were all well contested, and the performances were quite up to previous standards. It may be mentioned that the students of this college carried off the Travancore Shield at the Madras Athletic Association. The Lord Bishop of Madras kindly gave away the prizes.

* * *

"The Teachers' Guild" seems to be living up to its first promise. Mr. S. Satthianathan, its able Secretary, has arranged meetings in the near future. Mr. J. H. Stone will read a paper on "The teaching of writing in Schools," and Mr. A. A. Hall will read a paper on "The teaching of reading to adults." These papers will occupy ten minutes each, and will be followed by a discussion. Practical papers of this kind cannot but be a great help to all the members of the Guild. The meeting will be held on the 23rd March 1896, at the Presidency College Hall, Madras.

The examination for awarding certificates of competency to teach Drill and Gymnastics in Schools, was held on Monday, the 9th instant, and the following days at the Teachers' College Gymnasium, Saidapet, by the Board of Examiners for Teachers' Certificates. 37 candidates appeared for the examination.

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Mr. C. C. Flanagan, the Inspector of Schools, Southern Circle, is transferred to the Northern Circle, and M.R.Ry. C. Nagoji Rau Pantulu Garu is transferred to the Southern Circle.

* * *

We understand that 44 candidates have registered their names for the ensuing departmental test for Sub-Assistants. The examination will be held on the 27th April 1896.

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The written examination for Teachers' Certificates will be held on the 29th and the 30th April 1896.

* * *

We are sorry to observe that the results of the written test of the Teachers' Certificate Examination, 2nd Grade Collegiate, held in November last, are unusually poor. Of the 49 trained candidates that appeared for the examination from the whole Presidency, only 2 passed (one for trained teachers' certificate, and one for untrained teachers' certificate). The two that passed are students of the Teachers' College. This disastrous result is, we understand, due to one of the examiners failing as many as 44 candidates in the paper on "Methods of Teaching".

* * *

The inaugural meeting of the Madras Christian College Physical Science Association for this year was held on Wednesday, the 26th February 1896, in the Anderson Memorial Hall at 5 P.M., when Surg.-Major J. L. Van Geyzel presided, and Surg.-Lieut.-Col. W. G. King delivered an interesting lecture on "Epidemics."

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The lecturer said that the prevalence of Epidemics was somehow referable to meteorological phenomena such as the Monsoons. The cause of the spread is the increase of the microbes or diseased germs under favorable conditions. Fresh air and light would help the destruction of these germs. As precautions against cholera, &c., we ought to take care not merely of *drinking water* by boiling it, but also of what the Hindus term *water merely for domestic purposes*. To prevent small-pox,

&c., vaccination more than once is necessary, once at least in infancy and once after 12 or 13.

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M. R. Ry. T. R. Venkataswami Naidu, Chief Professor of Mathematics in the Central College, Bangalore, has been promoted to the responsible position of Personal Assistant to the Inspector General of Education, Mysore.

* * *

Mr. E. W. Middlemast, Professor of Mathematics, Presidency College, is transferred to the Rajahmundry College as Acting Principal in place of Mr. E. P. Metcalfe who proceeds on furlough for one year. M. R. Ry. R. Swaminatha Aiyar, who is now the Registrar in the Govt. Secretariat, and who was formerly an Assistant Lecturer in the Presidency College, succeeds Mr. Middlemast as Professor of Mathematics.

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The present and past students of the S. P. G. College, Trichinopoly, have presented the Rev. T. H. Dodson, M.A., the Principal of the College, with a valedictory address on the eve of his departure on furlough to England, on Monday, the 9th March 1896.

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The following are the results of the recent L. T. Degree Examination.

Theoretical	... Appeared 59	... Passed 35.
Practical	... Appeared 54	... Passed 37.

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The Convocation of the Madras University is fixed for Friday, the 27th March 1896. The Hon'ble Mr. Justice Subrahmanya Aiyar will deliver the convocation address.

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The Inspector-General of Education in Mysore submitted to Government certain proposals to strengthen the inspecting staff of the Educational Department and to provide additional grants needed therefor from the State Funds division for 1895-96. The Government have sanctioned the sum of Rs. 5,00,824 for the aforesaid purpose.

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We understand that official intimation has been received to the effect that the scheme for reorganising the Educational Department, as approved and submitted by the Government of India, has reached the Secretary of State.

The following gentlemen are appointed to be Fellows of the University of Madras :—The Hon'ble Mr. Charles Stewart Crole, I. C. S., First Member of the Board of Revenue and Commissioner of Land Revenue and Inam Commissioner ; the Hon'ble Mr. John Sturrock, I.C.S., Acting Second Member of the Board of Revenue and Commissioner of Land Revenue ; M. R. Ry. Rama Varma Raja, Tamburan of Parappanad' Member of the Travancore Legislative Council and ex-Member of the Malabar Marriage Commission ; the Hon'ble Colonel Duncan McNeil Campbell, R. E., Joint Secretary to Government, Public Works Department; Mr. Alfred Chatterton, B. Sc., Professor of Engineering, College of Engineering ; M. R. Ry. Rai Bahadur Arcot Danakoti Mudaliyar Avargal ; Surg-Lieut.-Col. John Lancaster, M.B., Civil Surg., Coonoor; Mr. Thomas Tweedle Logan, B.A., Inspector of Schools ; Mir Sultan Muhi-u-din Sahib, Secretary to the Board of Muhammadan Education ; Muhammad Aziz-ud-din Husain Sahib, Deputy Collector, Salem ; Muhammad Kadir Navaz Khan Sahib, Khan Bhahdur, Deputy Collector, Trichinopoly ; M. R. Ry. M. O Parthasarathi Aiyangar Avargal, M.A., M.L., Advocate of the High Court and Secretary to the Anglo-Vernacular High School, Triplicane ; M. R. Ry. C. R. Pattabirama Aiyar Avargal, B. A., B. L. ; the Rev. Geo. Pittendrigh, M. A., Professor, Christian College ; M. R. Ry. M. Rangachariyar Avergal, M. A., Lecturer, Kumbakonam College ; Surg.-Lieut.-Col Arthur James Sturmer, Acting Surgeon, Fourth District, and Professor of Medical Jurisprudence, Medical College ; M. R. Ry. M. Viraraghava Chariyar Avargal, B. A. ; Sultan Muhi-ud-din Sahib, Fourth Presidency Magistrate ; M. R. Ry. R. Vedanta Charlu Avargal, Dewan of Pudukkottai ; Hon'ble K. Kalyanasundaram Iyer, B. A., B. L. ; M. R. Ry. L. C. Williams Pillai, B. A., Assistant Inspector of Schools.

PUNJAB.

In the December Notes regarding the Punjab, reference was made of a proposal to establish a Literary and Debating Club under the auspices of the Punjab Association, one object being the bringing together of Europeans and Natives. With this object in view, a series of lectures had been arranged, two of which have been given this month. The first subject selected was "Spectrum Analysis with special reference to the chemical composition of Heavenly Bodies," the lecturer being Professor J. Campbell-Oman, of the Lahore Government College. Mr. Oman is quite at home with such a topic, and if it was just a little too learned and technical, that is no fault of the lecturer, of whom, by the way, it will be necessary to say something further on. The second lecture was deli-

vered by Mr. B. G. Ussher, M. A., Vice-Principal of the Lahore Government College, in the subject of "Universities in Mediæval and Modern times." Mr. Ussher gave a sketch of English Universities, how they came to be founded, the various changes they have undergone and the influence they have had on the country, socially, morally and politically. Rai Madan Gopal Bahadur, Barrister-at-Law, and Mr. K. B. Thapur are to be congratulated on their efforts so far to fulfil one of the most useful functions of the Association in which they are so much interested, and it is hoped they will continue to receive the support of those able to further the objects of the society.

* * *

The annual examinations for Male Teachers' Certificates will commence on the 20th April 1896. The Senior Vernacular and the Junior and Senior Anglo-Vernacular Examinations will be held at Lahore under the superintendence of the Principal of the Central Training College. The Junior Vernacular and the Zemindari Certificate Examinations will be held at Delhi, Jullundur, Rawalpundi and Mooltan under the superintendence of the Inspectors of Schools of the respective circles, and at Lahore under the supervision of the Senior Assistant Inspector of the Lahore Circle. Each of these tests is a very important one, as on the possession of certificates of one kind or another, depends the future career of teachers.

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It has been decided that, in future, Drawing will form an optional subject in the curriculum of the Punjab Middle School. A scheme on the subject has been drawn up after consultation with Inspectors of Schools, and some leading educationists in the Province. It is also contemplated to introduce Drawing into the scheme for the Entrance Examination. In European Schools Drawing is a special subject for the Middle School Examination and an optional subject in the Final Standard Examination, a test equivalent to the University Entrance.

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The Dayanand Anglo-Vedic College, Lahore, an institution entirely independent of Government aid in any form, has started a class in connection with its school to teach tailoring. This is quite a novel departure, and it is surprising to find that so many as six students have taken up the occupation. It will be interesting to watch the progress of the new idea.

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The five years from 1882 to 1887 were the busiest on record in the Punjab in matters educational, and to many who knew the Province and

its wants well, the innovations then introduced were watched with considerable surprise and doubt. The extension and development of education in all directions were the leading features of Sir Charles Aitchison's administration, and the announcement of his death in the third week of February could not but recall to mind that memorable epoch. A thoughtful Native editor of an excellent English newspaper, published at Lahore hits off the leading characteristic of Sir Charles Aitchison's rule in the Punjab in the following words:—"The masterly manner in which he sketched and carried out his very elaborate educational policy, the vigorous and healthy stimulus that he gave to local self-government, by acting as sympathetic Sponsor to Lord Ripon's infant child, have left their impress upon the administration of the Province which has helped and guided his two successors very considerably in their arduous work." The Aitchison Chiefs' College remains a fitting memorial of the deceased Civilian's great work in this line.

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The Medical Faculty of the Punjab University is calling the attention of the Syndicate to the necessity of revising the regulations relating to the M. B. degree, which seems likely to be depreciated by the substitution of the Intermediate Examination in Arts for the Entrance Examination, as the compulsory standard for the degree of Licentiate of Medicine and Surgery under existing regulations. The only difference between the examinations for the M. B. and the L. M. and S. degrees is the inclusion of the subject of Zoology in the former.

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Mr. Justice Roe, the Vice-Chancellor of the Punjab University, is about to proceed on furlough to Europe. There will probably be no necessity to appoint another Vice-Chancellor during his absence.

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The Senate of the Punjab University has upheld the decision of the Syndicate rejecting the proposal to open a Law School at Delhi. The promoters of this scheme have been very persistent in their endeavour to run it through, but have sustained defeat now for the third time. It was an unusual proceeding thus to appeal to the Senate from the decision of the syndicate.

* * *

Mr. J. Campbell-Oman, Professor, Lahore Government College, and Secretary to the Punjab Text-Book Committee, will proceed on long furlough to Europe in April, and it is not likely he will return to India. He will be much missed in the College, where for years he has done most excellent work in a quiet unostentatious manner. It is not per-

haps saying too much to assert that few, if any, educationists in the Punjab know the native student so well as does Professor Oman, and that few, if any, are looked up to and respected to such a degree as he is. His election, too, to the Secretaryship of the Punjab Text-Book Committee has proved a very beneficial one. Mr. Oman was as much in his element here as he was in the College.

* * *

The Director of Public Instruction has just published revised Regulations for the Intermediate Examination in Science to be held annually in Lahore in March. The test will be conducted by means of written papers and also by an oral examination which shall be of a distinctly practical nature. Each candidate must take up the four subjects of English, Mathematics, Physical Science (Physics and Chemistry) and Biology, the scale of marks being 150 in each subject. Ten marks will be assigned to the oral examination in English, which is to be limited to a test of the candidate's power of reading, and fifty marks will be assigned to the oral and practical test in Physical Science and Biology. The minimum number of marks required to pass the examination has been fixed at 33 per cent. in each subject, but in Science this percentage is required in both the oral and written examinations.

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Surg.-Lieut.-Col. S. H. Browne, C. I. E., Principal of the Lahore Medical College, will proceed to Europe on furlough in April. Surg.-Major F. F. Perry, Professor of Surgery, will officiate for Dr. Browne.

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Colonel W. R. M. Holroyd, late Director of Public Instruction, Punjab, is on a visit to Lahore. This is not the first time Colonel Holroyd has visited the Punjab since his retirement in October 1890.

REVIEWS OF BOOKS.

THE HEART OF LIFE. By W. H. Mallock. London: *George Bell & Sons.*

This is an educational journal and we have felt some doubt whether we ought to review this book in these pages. However, the book has been sent to us for review and we suppose that it is our duty to warn our readers of bad books as well as to recommend good ones. We must admit that this is a very powerful novel. The characters stand out life-like from the canvas. But it is not a book which is suitable for perusal by the young. We regret to say that the author has used his undoubt-

ed powers to depict adultery in soft colours. We think that the best antidote for such poison is the use of plain, old-fashioned language and we shall use such language. The hero of this story is Reginald Pole, an Oxford man, well connected, intimate with statesmen and waiting for a seat in Parliament. While waiting for this he forms a connection with a disreputable woman in London but breaks this off and goes to live on the continent. There he becomes entangled with "a complete woman of the world" until she tires of him and breaks off the affair. Then at a *table d'hôte* in a little German watering place, he picks up the young and neglected wife of an English racing man. Pole pays the outstanding bills of the neglected wife and she bears him a son. After this Pole returns to England and gets into Parliament as member for Windsor but his conduct is even worse. The racing man inherits money and calls his wife home to keep house for him but Pole exchanges letters with her. At the same time he has three other affairs on hand. In his mother's house he meets a beautiful Austrian and his love passages with her are described. She tries to check his ardour by telling him that she has a past and by showing him an illegitimate child which she keeps in lodgings in the adjacent town, but, nevertheless, he makes a proposal of marriage to her. Meanwhile he stays in the house near Windsor of a wealthy banker and proposes also to the heiress daughter of the house, but while staying in this house he visits in a riverside villa the racing-man's wife, who wishes him not to disturb her reconciliation with her husband. Kept at arms length by these three ladies, Pole goes in search of a girl "with modest eyes" whom he had met at night on the Piccadilly pavement. Of course a member of Parliament cannot lead such a life without scandal. A canon of Windsor, who led a social purity crusade, saw Pole coming away from the riverside villa and threatens to expose him to the husband, the racing man, unless Pole accepts the Chiltern Hundreds. Pole consents to do this but suddenly the whole situation changes. The canon of Windsor, the leader of the social purity agitation, himself goes wrong with a servant maid and in a fit of remorse writes letters withdrawing all charges against Pole. At the same time comes news that the racing man has been drowned. Pole at once persuades his mother to ask to her house the racing man's widow with her son and there this unpleasant story ends with vice triumphant and virtue discredited.

A Man's Privilege. By Dora Russell. Bombay: *George Bell & Sons.*

The heroine of this story is a clergyman's daughter in love with a young and briefless barrister and the experienced reader sees in the first

page that these two will marry. But she inherits a fortune and he is too proud to ask her and it is not until the last page of the book that she exercises "a man's privilege" and asks him. Meanwhile they are kept apart by a good old-fashioned plot, with two murders, two suicides and plenty of intrigues, which make the book very exciting reading. This is by no means the first novel that the authoress has written and we would venture to suggest that, if she herself knows any briefless young barrister, it would be well to submit to his censorship the legal procedure in any future novel she may write. A large fortune is left directly to the heroine, not to trustees for her benefit, and there is a clause in the will forbidding her to divide or sub-divide the fortune. No such direction would be operative and the phrase "divide or sub-divide" is not a phrase which a lawyer would use in drafting a will. The villain of the piece murders a woman and is tried and acquitted. After his acquittal the weapon is found and he is afraid that he will be tried a second time and convicted. There could be no second trial in England. Then he commits another murder in Paris, and French detectives appear in London and search a house, apparently without a warrant and not accompanied by any English police. We much doubt if this procedure is correct.

Spenser-Shepheard's Calendar, with Introduction and Notes. By C. H. Herford, Litt. D., M. A., Professor of English Language and Literature in the University College of Wales, Aberystarth. London: *Macmillan & Co.*, 1895.

This is a half-crown volume in the series of Macmillan's English classics. It is well printed and the introduction gives compact information about Edmund Spenser and pastoral poetry in general, while the notes are helpful to any student of mediæval English, but we think that ordinary readers prefer the Elizabethan poets with the spelling modernised. We see no good reason why Professor Herford should not call this book "The Shepherd's Calendar" and print the text with modern spelling. If we are to read Spenser with the archaic spelling then used why not the Bible and Shakespeare?

Francis Bacon: The Advancement of Learning, Book II., with Notes. By F. G. Selby, M. A. (*Oxon.*) London: *Macmillan & Co.* Price 4*s.* 6*d.*

Professor Selby, of the Deccan College, Poona, has already edited Bacon's Essays and the first book of the Advancement of Learning in Macmillan's English Classics and he now gives us the second book. His notes are very valuable. We read with special interest the notes upon the various systems of philosophy which are mines of information for

the student. But it is not only because of the notes that we heartily recommend this book to our readers. Bacon had sound ideas upon the office of a University and the publication of this book at the present moment is opportune. We hope that every graduate or undergraduate who peruses this little volume will ask himself the question what Bacon would have said of our Indian Universities, as at present constituted, and we hope that this volume will furnish matter for many discussions upon that subject.

While we thus cordially praise this book we cannot resist the temptation to break a friendly lance with Professor Selby over some of his notes. On page 302 he mentions that Bacon was opposed to phonetic spelling, one reason being that the present spelling shows the derivation of words. Professor Selby does not give much weight to this objection. He says, "The old spelling could be retained side by side with the phonetic spelling in dictionaries, and such guidance as it affords in etymology would in this way be retained." We cannot agree with this. If the letter *b* in debt and the letter *g* in sign and the letter *o* in journal appear only in etymological dictionaries, and the *colonel* of a regiment and the *kernel* of a nut are spelled the same way and the fourth day of the week becomes Wensday, then certainly we think that the interesting derivation of these words will be forgotten.

The note upon the passage at page 121, line 19, is incomplete. It is true that Venetian Ambassadors wrote remarks upon the characters of Popes and Cardinals, as they did upon the personages at every court in Europe, but Bacon refers to the special discussion, when a conclave assembled to elect a new Pope, upon the characters of the various cardinals likely to be chosen.

In the note at page 191 the surmise that the phrases Provincials and Generals are probably taken from the organization of monasteries is not happily worded. A monastery has an abbot or prior at its head. A monastic order has a General at its head with a Provincial in each Province. The Jesuits at Poona could have explained these words to Professor Selby.

The note at page 190 about the exercises, acts or disputations at the Universities might be enlarged by mentioning that at the Inns of Court in London, the disputations dwindled down to the mere form of the disputant rising and saying, "I am for the widow," a survival of the days when a widow's dower was a frequent subject of litigation. In the Catholic Universities on the Continent, these disputations still exist and are by no means an empty form. The most brilliant students in the graduating class are selected to defend publicly certain theses against all

comers and veteran scholars, attend the disputation and try the metal of the youthful defenders. Indeed Catholic text-books are often written in that form. The proposition is stated or defined. Then comes *objicies* with a long paragraph of difficulties and *respondeo* with the answers thereto.

On page 3, Bacon speaks of libraries as the shrines where all the relics of the ancient saints, full of true virtue, and that without delusion or imposture, are preserved and reposed. Possibly Bacon had in mind the exhibition of spurious relics, a pre-Reformation abuse which is now strictly guarded against in the Catholic church. But the note on page 186 says, " Bacon refers to the absurd miracles which the Catholic priests pretend to work by means of the relics of departed saints." We remark that Bacon said nothing about miracles, and we think that the words absurd and pretend in the note, with the use of the present tense, will offend any Catholic who reads it. The idea of miracles is gratuitously introduced by Professor Selby, possibly with some recollection of Acts xix. 12, but all that the Catholic church says is that the relics of saints are to be had in veneration.

ENGLISH SYNTHESIS. By J. H. Walton. Madras: *Addison & Co.*

Mr. Walton's *English Synthesis*, is evidently supplying a want, for in two years a third edition has been published. It is an improvement on the last, yet much remains to be done to make it as popular and useful as we should like to see it.

The chief objection we take to the work before us is the absence in many cases of judicious gradation in the exercises and introductory examples. Mr. Walton must know that fully nine-tenths of those who use the work are Hindu pupils whose knowledge of the language when they first take up the book in the Fifth Form is meagre, and whose acquaintance with Poetry far more so. Hence such exercises as would lead them on, step by step, would be most suitable. Those given are, to a great extent, quotations from the great dramatists and other poets. In the chapter on *Word-Substitution*, the arrangement like that on *Ellipses* under the various parts of speech, is suggested.

Most of the exercises are introduced by preliminary observations and examples. We should like to see this extended to exercises 56 and 186. Unless the overwhelming majority of non-Latin pupils have a vocabulary of Latin roots, or a preliminary chapter bearing on the determination of Saxon words by their *form* and *application* as given in some grammatical works, they cannot, unhelped, get on with exercise 31.

The arrangement of the exercises seems to have been hurried. We

would expect to see exercise 49 taking its place after exercise 52, and a far more copious chapter on such a difficult sequence which is commonly taken up by University examiners.

Where pupils are concerned, one looks for an exactness of language. In the chapter on the use of Capital Letters, the insertion of *for* at the beginning of para 13, and that of the article before each sentence in exercises 2 and 3, are necessary. The Article is the stumbling-block of the Hindu pupil (who finds none in the Vernacular), and therefore the more he sees it correctly used in exercises intended to teach Composition, the greater are his chances of mastering the difficulty. In the very first article, (Spelling) the pupil will never understand that chaff ends in a single *f*. No-pupil, even few teachers, know that this is so, coming as it does from the Saxon *ceaf*. Such words as *pal*, *pus*, *roc*, *soc*, *orc*, *manioc*, *alembic* might be omitted or superseded by familiar examples. 'Loaded with adjuncts' in section 4 of page 32 might be expressed in simpler language. Under mis-prints we notice *know* in the first sentence of exercise 56. The pupil is not likely to know that "*incapable of being*" should be taken as a common factor (so to speak) and supplied before every succeeding word in exercise 39.

A larger number of sentences might with advantage be given under exercise 11, and the number in exercises 18 to 20 reduced. The 'copiousness' in the preface to teachers is wanting in the exercise noted.

Exercise 55 might well give way to a more intelligible passage.

The first direction under Syllabification is novel. Who is there that does not sometimes divide a word at the end of a line? Even the printer on page 23 disregards the suggestion when breaking up *substi-tute* and *syno-nymes*.

We would welcome in the next edition a distinct chapter on Idiomatic Verbs, which Mr. Walton simply touches on in exercise 32. This as much as anything else conduces to good Composition which we believe is the author's aim. Another useful chapter would be on the change of accent in such words as *repairs*, *minute*, *invalid*, *estimate*. Question 17 on page 97 suggests a chapter or copious exercises on the interchange of *since* and *ago*, and question 29 on page 98 of exercises on the pronoun *it*.

In our opinion, the work before us is of immense benefit. The chapters on Paraphrasing, Ellipses, Direct and Indirect Speech—the exercises under Cognate Derivatives—and, not least, the Appendix on the Article ought to be of very great advantage, especially to the private pupil. Chapter 8 of Part III. and chapter 3 of Part IV. we commend to the Matriculation Class. The use of the Class Reader for

additional exercises is most necessary and we join with the author in calling attention to this means of instruction.

WORD-BUILDING AND SPELLING-BOOK. By W. H. Drinkwater. London: *Longmans, Green & Co.*

This book is an attempt to simplify the learning of spelling by a graduated course of word-building exercises. It begins with syllables of two letters of constant powers added on to a single consonant at first, then to two consonants of separate powers, and so on, and at the same time verifies acquisition by the children of the sounds, by requiring application to words constructed with similarly sounded syllables. Difficulties in spelling and pronunciation are brought in gradually and the exceptions are clearly distinguished in type. The author has devoted great labour and care in the selection and arrangement of words and proceeds by gradual steps from the simple and regular to the difficult and anamolous words as regards spelling and pronunciation: and in the course, as words rare and difficult must come in, such words have the meanings given by the side of them. The author has also given a few rules for guidance in the spelling of derivatives from certain classes of words which end in particular letters or syllables.

Though it must be accepted that spelling is a matter for the eye, that the greatest reader is always the best speller, and that spelling should generally be learnt by association, still this book may be welcomed as a kind of drill-book when progress is rendered easier by careful selection and arrangement and the monotony is varied by frequent introduction of jingles containing similar words, *e.g.*,

While under the beech
Making a speech,
A very fine leech
Soon made him screech
And help beseech.

She lost her veil while in the dale
Buying a scale during the sale,
Where the man so pale
But still quite hale.

THE ROYAL CROWN INFANT READER AND READERS 1—6. London, Edinburgh and New York: *Thomas Nelson & Sons.*

The most attractive feature of this series is the occasional introduction of coloured illustrations which greatly add to the merit of the books and much enhance their value as books for the young.

The Infant Reader contains thirty lessons dealing with familiar animals and English home life which cannot but be interesting to the little learners in English schools. Each lesson is marked off into sections, so that each section may be gone through as a day's work. The style of the book is perfectly easy and simple, and contains just the language which the pupils employ in their every-day life. Occasionally, however, are found long and complex sentences, which might have been split up into shorter ones to enable the children to understand them the better. The words given in the appendix are in themselves not of much value, unless the pupils be asked to construct small sentences of their own to illustrate their use.

The selections in the higher readers contain a stock of varied information bearing on Natural History and Elementary Science, Hygiene, and Physiology, besides a number of descriptive stories, fables, didactic pieces and short poems intermixed with the prose selections. The Advanced Readers, especially Nos. 5 and 6 might have contained selections from classic prose writers and eminent poets. It is true that at the end of Reader No. 6 are found four poetic pieces which are truly classic, but they might have been supplemented by more selections from Shakespeare, and by some of the writings of poets like Longfellow, Wordsworth, Tennyson, &c. Each lesson is followed by a list of difficult words syllabised and marked with accents so as to be of great help to correct spelling and pronunciation; and there are also word exercises which the pupils will do well to work out at home. The Notes are given at the end—a plan much better than putting them after each lesson, and the Notes touch upon only those points requiring annotation. The summary of each lesson might have been given in Readers Nos. 1—3, while in the others the summaries might have been given only of difficult or important lessons, the pupils being asked to prepare the *resumes* of the rest. Very useful information on Word-building, Derivation, Parsing, Analysis and Figures of Speech is found in the Appendices to the several Readers. On the whole, the Readers are very attractive and will eminently serve the purposes of School Readers.

COMBINATION TEST CARDS. London: *George Bell & Sons.*

This publication consists of six sets of cards intended for standards one to seven, a set for each standard except in the case of the first set which relates to both the first and the second standards. Each set contains thirty cards and each card gives select questions on Arithmetic, Dictation and Grammar, History and Geography and Object Lessons. For standards fifth to the seventh, Elementary Science takes the place

of Object Lessons of the earlier standards. There are about thirty-five questions on each card, of which about fifteen bear on Arithmetic. The cards are of convenient size and printed and got up in an excellent manner.

Each card of every set contains questions different from those of the other cards of their several sets, and in securing an evenness as regards range and difficulty among the questions for one standard, the best care and attention have been bestowed. The questions are all up to the needs of the several standards and each set is furnished with two additional cards which contain the answers to the questions on Arithmetic. The choice of the sums in Arithmetic needs special commendation.

Though the cards are intended to test the requirements of the several standards according to the English code, the majority of the questions are well-suited to the schools of this country, and we believe that the cards will be of immense value for purposes of examination and that they will considerably save the time and labour of our Inspecting Officers: we have no hesitation in recommending the Cards for this use.

THE TRAVELLER. THE DESERTED VILLAGE. Edited by W. H. Sharp, M. A., Professor at Elphinstone College, Bombay. THE TASK, BOOK IV. Edited by Arthur Barrett, B.A., of Dacca College, Poona. LADY OF THE LAKE, CANTO I. Edited by James Macdonald, Head master of John Cotton High School, Bombay. Bombay: *Messrs. Cooper & Cooper.*

Each of the above is a well-known English classic prepared by the editors for use in High Schools and Colleges of the Indian Universities. This is not the first time we have to review the publications of Messrs. Cooper of Bombay, or the productions of Mr. Sharp, Mr. Barrett or even of Mr. Macdonald as editors. Both the publishers and the editors seem to be almost under a vow to subject every piece of English poetry to the same editorial manipulation, and bury the text in a mass of 'introduction' and 'argument,' 'notes' and 'paraphrase.' The introductions, on the whole, are good and suitable; while the notes are of the average run, and trespass often into the legitimate domain of Johnson and Webster. As to the paraphrase, we have given, in a previous number of this Journal, what we think of such a performance and what its true place is in a course of English teaching. We shall here content ourselves with simply pointing out that good poetry expressed in good verse can never be satisfactorily rendered into prose without spoiling the beauty of the poetry and ruining the strength of expression. A teacher should there-

fore never make it a rule to paraphrase every line of poetry he has to teach, though for the purposes of exposition he might be compelled to paraphrase or get paraphrased a couplet here or a stanza there. To forget this and provide a text with a cut and dry paraphrase is, to us, to miss the true aim of annotation. Such a plan has the further disadvantage of enervating the pupils' thought, for why need they put themselves to the trouble of thinking out the meaning of a passage, when the thinking is already done for them by the benevolent editor and the results appended in the shape of a snug and cosy paraphrase.

The general get-up of the book is as good as usual with similar Indian publications, though we should always like to see some prominence given to the text by the use of larger type than for the rest of the volume, and thus to have the ill effects partly neutralised of the multitudinous notes drawing away the pupils' attention from the chief part of the book. Cowper and Scott have received this honourable treatment at the hands of the publishers, but Goldsmith has not been equally fortunate.

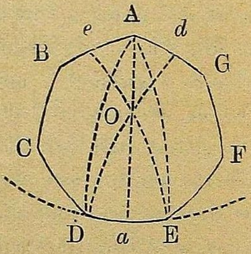
MATHEMATICS.

Solutions of Questions.

76. (*V. Ramaswami Aiyar, M. A.*) A regular polygon of n sides (n odd) is such that its polar polygon coincides with itself. If $2a$ be any one of the sides and 2θ any one of the angles of the polygon, and R, r, the spherical circum-radius, and in-radius, prove that

$$\cos a = \sin\theta = \tan r = \cot R = \sqrt{\cos \pi/n}.$$

Solution by K. V. Natesa Aiyar, B. A., and A. Radhakrishna Aiyar, B.A.



Draw the figure of n sides ABCDEFG.

Bisect DE at a and draw the arcs AD, Aa, AE.

Also bisect AB, AG, by drawing the arcs Dd, Ee.

The point O where Dd and Aa intersect is the circum-centre as well as the in-centre, and Oδ, Oe, Oa, are the in-radii, while OA, OD, OE are the circum-radii.

Since A is the pole of DE, Aa=AD=AE= $\angle$ ADE=$\pi/2$.

Since D is the pole of AG, DA$=$Dd and $\angle$ AD$d$$=Ad$$=\alpha$: and angle OD$a$$=\theta$.

Hence we see $\alpha+\theta=\pi/2=r+R$ *i.e.* $\cos\alpha=\sin\theta$ and $\tan r=\cot R$.

From the right-angled triangle ODa,

$$\sin\alpha=\tan r\cot\theta \text{ and } \tan r\cot R=\cos\pi/n\ (\text{ or } \angle DOa)\ ;$$

$$(i.e.)\quad \cos a=\sin\theta=\tan r=\cot R=\sqrt{\cos\pi/n}.$$

77. (*Madras, M. A.*, 1894.) If $y=x/(1-x^2)^{\frac{1}{2}}$, shew that

$$\frac{d^ny}{dx^n}=\frac{(n+1)!\ x^{n-1}}{2(1-x^2)^{n+\frac{1}{2}}}\left\{1+\frac{3}{2}\cdot\frac{(n-1)\ (n-2)}{3\cdot4}\cdot\frac{1}{x^2}+\frac{3}{2}\cdot\frac{5}{4}\cdot\frac{(n-1)(n-2)\ (n-3)\ (n-4)}{3\cdot4\cdot5\cdot6}\cdot\frac{1}{x^4}+\ldots\ldots\right\}.$$

(1.) *Solution by K. V. Natesa Aiyar, B. A.*

$\dfrac{dy}{dx}=(1-x^2)^{-\frac{3}{2}}$, which shows that the proposition is true when $n=1$; complete the proof by *Mathematical Induction.*

(2.) *Solution by A. Radhakrishna Aiyar, B. A.*

If $x=\sin\theta$, then $\dfrac{d}{dx}\left(\dfrac{\sin^m\theta}{\cos^n\theta}\right)=\dfrac{(n-m)\sin^{m+1}\theta}{\cos^{n+2}\theta}\left\{1+\dfrac{m}{n-m}\cdot\dfrac{1}{\sin^2\theta}\right\}$

$$\text{Now}\quad y=\frac{\sin\theta}{\cos\theta}\ ;\quad \frac{dy}{dx}=\frac{2}{2\cos^3\theta}\ ;\quad \frac{d^2y}{dx^2}=\frac{2\cdot3\cdot\sin\theta}{2\cos^5\theta}\ ;$$

$$\frac{d^3y}{dx^3}=\frac{2\cdot3\cdot4\sin^2\theta}{2\cos^7\theta}\left\{1+\tfrac{1}{4}\cdot\frac{1}{\sin^2\theta}\right\};$$

$$\frac{d^4y}{dx^4}=\frac{2\cdot3\cdot4}{2}\cdot\frac{5\sin^3\theta}{\cos^9\theta}\left\{1+\frac{2}{5}\cdot\frac{1}{\sin^2\theta}\right\}+\frac{2\cdot3\cdot4}{2\cdot4}\cdot\frac{7\sin\theta}{\cos^9\theta}$$

$$=\frac{2\cdot3\cdot4\cdot5\sin^3\theta}{2\cdot\cos^9\theta}\left\{1+\frac{3}{2}\cdot\frac{3\cdot2}{3\cdot4}\cdot\frac{1}{\sin^2\theta}\right\}.$$

Substituting for $\sin x$ and $\cos x$, we see that the proposition holds when $n=1$, 2, 3, 4. We may complete the proof by *Mathematical Induction.*

(3.) *Solution by C. S. Mahadeva Aiyar, B. A.*

Let u denote $(1-x^2.)$

We have to pick out the co-efficient of h^{n-1} from the series

$$\frac{(-1)^{n-1}h^{n-1}}{(n-1)!}(2x+h)^{n-1}\frac{d_{n-1}u^{-\frac{3}{2}}}{du^{n-1}}+\frac{(-1)^{n-2}h^{n-2}}{n-2!}(2x+h)^{n-2}\frac{d^{n-2}u^{-\frac{3}{2}}}{du^{n-2}}+\frac{(-1)^{n-3}h^{n-3}}{(n-3)!}(2x+h)^{n-3}\frac{d^{n-3}u^{-\frac{3}{2}}}{du^{n-3}}+\ldots\ldots\ldots\ldots$$

Thus $\dfrac{d^ny}{dx^n}$ (Cf. Edward's *Differential Calculus*, Art. 147.)

$$=(-1)^{n-1}(2x)^{n-1}\frac{d^{n-1}u^{-\frac{3}{2}}}{du^{n-1}}+(-1)^{n-2}\cdot\frac{(n-1)\ (n-2)}{1!}(2x)^{n-3}\frac{d_{u-}{}^2u^{-\frac{3}{2}}}{du^{n-2}}$$

$$+(-1)^{n-3}\frac{(n-1)(n-1)(n-3)(n-4)}{2!}(2x)^{n-5}\frac{d^{n-3}u^{-\frac{3}{2}}}{du^{n-3}}+\dots\dots\dots$$

$$=\frac{3.5.7\dots\dots(2n-1)x^{n-1}}{(1-x^2)^{n+\frac{1}{2}}}\left[1+\frac{(n-1)(n-2)}{1!\,(2n-1)}\cdot\frac{1-x^2}{2x^2}\right.$$

$$\left.+\frac{(n-1)(n-2)(n-3)(n-4)}{2!\,(2n-1)(2n-3)}\cdot\frac{(1-x^2)^2}{2^2x^4}+\dots\dots\dots\right]$$

The co-efficient of $\frac{1}{x^{2s}}$ in the expression within the square brackets

is $\frac{(n-1)(n-2)\dots(n-2s)}{2^s.\,s!\,(2n-1)(2n-3)\dots(2n-2s+1)}\left\{1-\frac{(n-2s-1)(n-2s-2)}{2(s+1)(2n-2s-1)}(s+1)\right.$

$$\left.+\frac{(n-2s-1)(n-2s-2)(n-2s-3)(n-2s+4)}{2^2(s+1)(s+2)(2n-2s-1)(2n-2s-3)}\cdot\frac{(s+2)(s+1)}{2!\,!}-\dots+\dots\right\}$$

Here the expression within the large brackets

$$=1+\frac{(n-2s-1)(n-2s-2)}{2\ (2s-2n+1)}+\frac{(n-2s-1)\dots\dots(n-2s-4)}{2\cdot 4\ (2s-2n+1)(2s-2n+3)}+\dots\dots\dots\dots$$

$$=2^{n+2s-2}\frac{(s+2)(s+3)\dots\dots(n-s-1)}{(n+2)(n+3)\dots\dots(2n-2s-1)}$$

(Cf. Chrystal's Algebra, Vol. II. Ex. 5, page 185).

Thus the co-efficient of $\frac{x^{n-1}}{(1-x)^{n+\frac{1}{2}}}\cdot\frac{1}{x^{2s}}$ is

$$3\cdot5\cdot7\dots(2n-1)\frac{(n-1)(n-2)\dots\dots(n-2s)}{2^s s!\,(2n-1)(2n-3)\dots(2n-2s+1)}$$

$$\times\frac{(2s+4)(2s+6)\dots(2n-2s-2)}{(n+2)(n+3)\dots(2n-2s-1)}$$

$$=\frac{3\cdot5\cdot7\dots(2s+1)}{2\cdot4\cdot6\dots2s}(2s+3)(2s+5)\dots(2n-2s-1)\times(n-1)(n-2)\dots(n-2s)$$

$$\times\frac{(2s+4)(2s+6)\dots\dots(2n-2s-2)}{(n+2)(n+3)\dots\dots(2n-2s+1)}$$

$$=\frac{3\cdot5\cdot7\dots(2+1)}{2\cdot4\cdot6\dots2ss}\cdot\frac{(n-1)(n-2)\dots(n-2s)}{(2s+2)!}(n+1)!$$

Thus $\frac{d^ny}{dx^n}=\frac{(n+1)!\,x^{n-1}}{(1-x^2)^{n+\frac{1}{2}}}\left[1+\frac{3}{2}\cdot\frac{(n-1)(n-2)}{4!}\cdot\frac{1}{x^2}+\right.$

$$\left.\frac{3\cdot5}{2\cdot4}\cdot\frac{(n-1)(n-2)(n-3)(n-4)}{\underline{|6}}\cdot\frac{1}{x^4}+\dots\dots\dots\right].$$

78. (*T. Sundara Row, B. A.*) The sides AB, BC, CD, DA of a square are divided in medial section, so that A*a*, B*b*, C*c*, D*d*, are the means. Upon them, squares *aa'*, *bb'*, *cc'*, *dd'*, are described outside ABCD. Show that *a'b'c'd'* is equal to three times the square ABCD.

(1.) *Solution by K. V. Natesa Aiyar, and others.*

a'b'c'd' is the square on *a'b'*=the sum of the squares on A*a'*, A*b'*
=the sum of the squares on A*a*, AB, A*a* together with twice the rectangles AB·A*a*

$=$Sq. on AB $+2$ rect. AB.B$a+2$ rect. AB.Aa
$=$Sq. on AB $+2$ sq. on AB
$=$three times the square on AB.

(2.) *Solution by T. Rangasami Aiyangar, B.A., and others.*

Square $a'b'c'd'=$Square ABCD$+4$ triangles A$a'b'$.

Triangle $Aa'b'=\frac{1}{2}$ rectangle $a'b'=\frac{1}{2}$ $Aa'.Ab'$

$$=\tfrac{1}{2}\,Aa(AB+Aa)=\tfrac{1}{2}\{AB.Aa+Aa^2\}$$
$$=\tfrac{1}{2}\{AB.Aa+AB.aB\}=\tfrac{1}{2}\,AB^2$$

$\therefore$ square $a'b'c'd'=3$ square ABCD.

(2.) *Solution by S. Anantanarayana Aiyar.*

If $AB=2l$, then $Aa=(\sqrt{5}-1)l$, and $Ab'=(\sqrt{5}+1)l$.

Triangle $Aa'b'=2l^2$ and $(a'b')^2=12l^2=3AB^2$.

N.B.—By the first part of Euclid II., 11, rect. $Ab'.b'B=AB^2$.

—*Editor.*

82. (*C. N. Cama*). If through a fixed point A a straight line be drawn meeting two fixed lines OD, OE in B and C, and on it a point P be taken such that $AC.AP=AB^2$, prove that the locus of P is a parabola passing through A and O.

(1.) *Solution by G. Rama Aiyangar, B. A.*

Through A, P draw parallels to OD meeting E at G and H.

Take OD, OE as axes of co-ordinates and let (h,k), (x,y) be the co-ordinates of A and P.

The equation to any line through A is $y-k=m(x-h.)$

Thus $OC=k-mh$; $OG=k$; $OH=y$ and $GH=y-k$; $GC=-mh$.

By hypothesis $AP.AC=AB^2$; $\therefore$ $GH.GC=GO^2$.

$$\therefore \quad (y-k).mh+\frac{k^2}{h}=0$$

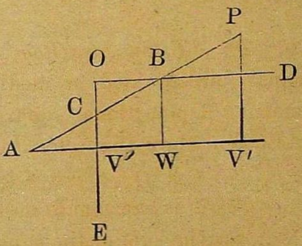
but $m=\dfrac{y-k}{x-h}$; $\therefore$ $(y-k).\dfrac{(y-k)}{x-h}+\dfrac{k^2}{h}=0$

or $(y-k)^2+\dfrac{k^2}{h}.(x-h)=0$,

which is a parabola passing through O (o,o) and A (h,k).

(3.) *Solution by R. Ramachendra Row, B. A.*

Draw AV parallel to OD meeting OE in V and PV′ and BW parallel to OE meeting AV in V′ and W



$PV'^2 : OV^2 :: PV'^2 : BW^2$

$:: AP^2 : AB^2$

$:: AP : AC$, $\because$ $AB^2=AC\cdot AP$

$:: AV' : AV$

$$\therefore \frac{PV'^2}{AV'}=\text{constant.}$$

The locus of P is a parabola passing though A and O and having its axis parallel to OD and the tangent at A parallel to OE.

99. Find $Lt_{x=0}\, x^{-6}\,\{x \sin(\sin x) - \sin^2 x\}$. —*Williamson.*

(1.) *Solution by R. Ramachendra Row, B. A., and A. Radhakrishna Aiyar, B. A.*

$$x \sin(\sin x) - \sin^2 x$$

$$= x\left(\sin x - \frac{1}{6}\sin^3 x + \frac{1}{120}.\sin^5 x - \dots\right) - \left(x - \frac{x^3}{6} + \frac{x^5}{120} - \dots\right)^2$$

$$= x\left(x - \frac{x^3}{6} + \frac{x^5}{120}\dots\right) - \frac{x}{6}\left(x - \frac{x^3}{6}\right)^3 + \frac{x^6}{120} - \left(x^2 - \frac{x^4}{3} + \frac{x^6}{36} + \frac{x^6}{60}\right)$$

$$= \frac{x^6}{18} + \text{ higher powers of } x.$$

$\therefore$ the limit of the given expression when $x=0$ is $\frac{1}{18}$.

(2.) *Solution by T. Sankara Row, B.A.*

Put $u = \sin(\sin x)$.

then $\dfrac{d^6(ux)}{dx^6} = 6u_5$ when $x=0$ by Leibnitz's theorem.

Now $u_1 = \cos(\sin x)\cos x$.

$u_2 = -u\cos^2 x - u_1 \tan x$.

$u_3 = u \sin 2x - u_1(\cos^2 x + \sec^2 x) - u_2 \tan x$.

$u_4 = u_1 \sin 2x + 2u\cos 2x - u_1(-2\cos x \sin x + 2\sec^2 x \tan x)$
$\quad -u_2(\cos^2 x + \sec^2 x) - u_3 \tan x - u_2 \sec^2 x$.

$= 2u\cos 2x + 2u_1(\sin 2x - \sec^2 x \tan x) - u_2(\cos^2 x + 2\sec^2 x) - u_3 \tan x$.

$u_5 = 2u_1 \cos 2x - 4u\sin 2x + 2u_2(\sin 2x - \sec^2 x \tan x)$
$\quad + 2u_1(2\cos 2x - 2\sec^2 x \tan^2 x - \sec^4 x) - u_3(\cos^2 x - 2\sec^2 x) -$
$\quad u_2(-2\cos^2 x \sin x - 4\sec^2 x \tan x) - u_4 \tan x - u_3 \sec^2 x$.
$\quad = 4(u_1 - u_3) = 4(1+2) = 12$ when $x=0$.

$$\therefore \frac{d^6(un)}{dn^6} = 72.$$

Again $\dfrac{d^6(\sin^2 x)}{dx^6} = \dfrac{d^5(\sin 2x)}{dx^5} = 2^5\cos 2x = 32$, when $x=0$.

$\therefore$ the given expression $= \dfrac{72-32}{\underline{|6}} = = \dfrac{1}{18}$.

Questions for Solution.

131. (*V. Ramaswami Aiyar, M. A.*) If there be n quantities $a, b, c, d \dots l$, show that

$$\Sigma\left\{\frac{(ax-b)(ax-c)\dots(ax-l)}{(a-b)(a-c)\dots(a-l)}\right\} \equiv \frac{x^n-1}{x-1}.$$

132. (*S. Padmanabha Aiyar, B. A.*) Through a given point (h, k) tangents are drawn to the curve $y=ax^3$, a being a variable parameter. Show that the locus of the points of contact is $2xy+kx-3hy=0$, and that the locus of the point in which each tangent *cuts* the curve is

$$xy-4kx+3hy=0.$$

133. (*V. Ramaswami Aiyar, M. A.*) Demonstrate the following identity due to M. *Hermite* (quoted in Hobson's *Trigonometry*) :— If $\alpha, \beta, \gamma, \delta, \ldots\ldots \lambda$ be any n angles, then

$$\cot(a-\alpha).\cot(x-\beta)\ \ldots\ \cot(x-\lambda) \equiv \cos\frac{nu}{2}+\Sigma A\cot(x-\alpha),$$

where $A=\cot(\alpha-\beta), \cot(\alpha-\gamma)\ \ldots\ \cot(\alpha-\lambda)$.

134. (*K. C. Ramamurti.*) Prove that the triangle formed by joining the orthocentres of the three equilateral triangles described on the sides of and outside a right-angled triangle is also an equilateral triangle. Also determine whether the incentre of this triangle coincides with the centroid of the right-angled triangle.

135. (*V. Ramaswami Aiyar, M. A.*) Rays of light proceeding from the centre of the *acute-angled* hyperbola $x^2/a^2-y^2/b^2=1$ are refracted at the curve, the index of refraction being $\mu=(a^2+b^2)/(a^2+b^2)$ Show (1) that each refracted ray is inclined at the same angle to the axes as the corresponding incident ray; and (2) that the refracted rays, are normals to a hyperbola.

136. If P_r denote the co-efficient of x^r in the expansion of $(1+x)^n$ prove that

$$p_1-\tfrac{1}{2}p_2+\tfrac{1}{3}p_3-\ \ldots\ldots\ \tfrac{1}{n}(-1)^{n-1}=1+\tfrac{1}{2}+\tfrac{1}{3}+\ \ldots\ldots\ +\tfrac{1}{n}.$$

—[*Todhunter.*]

137. (*G. Rama Aiyangar B.A.*) Find the locus of a point such that the tangents drawn from it to two given circles may contain equal angles.

138. A ray of light incident in a principal plane on the face AB of a prism of isosceles section ABC emerges at right angles to the base BC after internal reflexion at AC. A second ray incident parallel to the first and emerging at the face AC after a reflexion at the base, undergoes a deviation of 160° ; while a third ray incident at right angles to AB and emerging at BC after reflexion at AC undergoes a deviation of 130°. Shew that the angle of the prism is 40° and the refractive index $\sqrt{3}$. —[*Madras* : *B.A.* 1896.]

139. If A and B are the extremities of the major and minor axes of an ellipse whose centre is C, and if P,Q be points on the ellipse such that AP is parallel to BQ, prove that CP and CQ are conjugate semi-diameters. —[*Madras* : *B.A.* 1896.]

140. Equal masses m, m, are attached to the ends A,B of a light inelastic string which passes over a light smooth pulley. The system being at rest, a mass μ is gently placed on the mass m at A, and after t seconds the mass m at B begins to raise a mass $n\mu$ $(n > 1)$ which is lying on a table vertically below B, and is connected with the mass m by a light inelastic string. Determine the subsequent motion of the system and prove that after a further interval of $\frac{2t}{n-1}$ seconds the mass $n\mu$ will be on the table. If the impulse caused by the tightening of the string were just sufficient to break the string AB, what would be the subsequent motion of each of the masses. —[*Madras* : *B.A.* 1896.]

NOTIFICATIONS.

BOMBAY.

No. 7329 OF 1895-96.

To the Educational Inspector, Central Division; Northern Division; Southern Division.

SIR,—There has always been a general standing order against the admission to schools of people suffering from a contagious or infectious disease, and the Sanitary Commissioner now desires that the following definite rules should be added to our regulations.

(1.) No master or pupil should be allowed to present himself at school for a period of thirty days from the date the eruption of small-pox first appears in any individual living in the same house* as he does. If any one else in the house is attacked later the period is to be extended in the same proportion.

* Withdrawal to another house will not justify admission to school.

(2.) The period of abstention from school can be shortened† if the infected person is removed to hospital, all persons in the house vaccinated or re-vaccinated as the case may be, and the house and clothing and persons of the people living in the house disinfected to the satisfaction of the medical officer of the place.

† On the advice of the Medical Officer of the place.

2. I am inserting these rules in the *Indian Journal of Education*, Madras, and shall be obliged if you will insert them in your school paper. For the safety of the community all schools will be expected to observe the rules, and the rules will be inserted in the Codes next time they are reprinted.

POONA, 24*th February*, 1896.

List of appointments in the Educational Department for the month of February 1896.

6*th February*.—Mr. G. S. Suktankar, 2nd clerk to the Deputy Inspector, Kolaba, is appointed 1st clerk to the Deputy Inspector, Ratnagiri.

12*th February*.—The following appointments are sanctioned :—Mr. H. M. Jardosh, to be 5th Assistant, Ahmedabad Middle School; Mr. M. H. Kinkhabuala, to be

6th Assistant, Ahmedabad Middle School; Mr. P. B. Dixit, to be 8th clerk to the Educational Inspector, Northern Division; Mr. M. T. Adatia, to be 1st clerk, Ahmedabad Training College; Mr. G. D. Mehtaji, to be 2nd clerk, Ahmedabad Training College; Mr. M. P. Mehta, to be Assistant Master, Deesa Anglo-Vernacular School.

15*th February*.—The following appointments are made in the Poona High School:—Mr. K. R. Kelkar, to be 3rd Assistant; Mr. R. C. Bapat, to be 4th Assistant; Mr. D. D. Soutake, B.A., to be 5th Assistant; Mr. M. B. Bopardikar, to be 6th Assistant; Mr. K. V. Sohoni, B.A., to be 7th Assistant; Mr. S. S. Savarkar, L.C.E., to be 8th Assistant; Mr. G. B. Brahme, B.A., to be 9th Assistant.

19*th February*.—From the 1st of April 1896, Mr. S. R. Bhagwat, 1st Assistant Deputy Thana, is appointed 1st Assistant Deputy Khandesh, and Mr. K. R. Kelkar, 3rd Assistant Master, Poona High School, 1st Assistant Deputy Inspector, Thana Sub-Division.

20*th February*.—The following appointments are made in the Elphinstone College:—Mahamahopadhyaya Rajaram Shastri Bodas, to be 1st Assistant Teacher of Oriental Languages; Mr. Casim Sumar Thariani, M.A., to be 2nd Assistant Teacher of Oriental Languages.

26*th February*.—Mr. G. L. Bhosekar, is confirmed as clerk and Superintendent, Dhulia Training School; Mr. A. H. Desai, is appointed 3rd Assistant, Broach High School.

26*th February*.—The following appointments are made in the Nariad High School:—Mr. M. B. Bhat, to be 4th Assistant; Mr. K. A. Bala, B.A., to be 5th Assistant; Mr. B. R. Badshah, to be 6th Assistant; Mr. M. A. Pandya, B.A., is confirmed as 3rd Assistant, Telang High School, Godhra.

Office of the Director of Public Instruction, POONA, 6*th March* 1896.

K. M. CHATFIELD,
Director of Public Instruction.

MADRAS.

Mr. Edgar William Middlemast, M.A., to act as Principal, Rajahmundry College, during the absence of Mr. Matcalfe on furlough, or until further orders.

M. R. Ry. Ramaswami Swaminatha Aiyar, B.A., Registrar, Revenue Secretariat, to act as Professor of Mathematics, Presidency College, in the Fourth class of the Graded service, during the absence of Mr. G. H. Stuart on furlough, or until further orders.

M. R. Ry. Kunnathamakur Nagojee Rao Pantulu Garu, B.A., Inspector of Schools, Northern Circle, to be Inspector of Schools, Southern Circle—to relieve Mr. Flanagan before the latter proceeds on privilege leave.

Mr. Charles Craig Flanagan, M.A., Inspector of Schools, Southern Circle, *sub pro tem.*, to be Inspector of Schools, Northern Circle, *sub pro tem.*—to join at the expiry of his privilege leave.

M. R. Ry. Parsi Srinivasa Rao Pantulu, B.A., to be in charge of the office of the Inspector of Schools, Northern Circle, until relieved by Mr. Flanagan.

APPOINTMENTS.

Fort. St. George, March 14*th*, 1896.

No. 17.—Surg.-Lieut.-Col. William Richard Browne, M.D., to be Principal and Professor of Medicine, Medical College, in succession to Brig.-Surg.-Lieut.-Col. W.

Price, M.D.; *No.* 18.—Surg.-Major John Maitland, M.D., to be Professor of Surgery and Clinical Surgery, Medical College, *vice* Surg.-Lieut.-Col. W. R. Browne; *No.* 19. —Surg.-Lieut.-Col. Arthur James Sturmer to be Professor of Medical Jurisprudence, *vice* Surg.-Major J. Maitland; *No.* 20.—Mr. William Herbert Wilson, PH.D., Second class and sub. *pro tem.* First class, is confirmed in the First class; *No.* 21.—Mr. Edward Parr Metcalfe, M.A., Third class and sub. *pro tem.* Second class, is confirmed in the Second class; *No.* 22.—Mr. James Bourdillon Bilderbeck, M.A., Third class and Provisional Second class, is confirmed in the Second class; *No.* 23.—Mr. Edmund Marsden, B.A., Fourth class and sub. *pro tem.* Third class, is confirmed in the Third class; *No.* 24.—Mr. Thomas Tweedle Logan, B.A., Fourth class and sub. *pro tem.* Third class, is confirmed in the Third class; *No.* 25.—Mr. Alfred Gibbs Bourne. D.Sc., Fourth class and Provisional Third class, is confirmed in the Third class; *No.* 26.—Mr. S. Sathianadhan, M.A., LL.B., sub. *pro tem.* Fourth class, is confirmed in the Fourth class; *No.* 27.—M.R.Ry. M. Seshagiri Sastriyar, M.A., sub. *pro tem.* Fourth class, is confirmed in the Fourth class; *No.* 28.—Mr. Charles Craig Flanagan, M.A., sub. *pro tem.* Fourth class, is confirmed in the Fourth class. The confirmation in each case to take effect from the date on which the officer was given the present appointment sub. *pro tem.* In the last three cases confirmation is subject to the officers being brought on the Provincial Educational service on receipt of the sanction of the Secretary of State for the proposals for the reorganization of the department. *No.* 29.—Mr. Edmund Marsden, B.A., to act in the Second class during the absence of Mr. Metcalfe on leave, or until further orders; *No.* 30.—Mr. Joseph Henry Stone, M.A., to act in the Third class, *vice* Mr. Marsden.

J. F. PRICE,
Chief Secretary.

MISCELLANEOUS NOTIFICATIONS.

NOTICE TO MANAGERS OF SECONDARY SCHOOLS, &c., REGARDING INTENDED REMOVAL OF RECOGNISED SCHOOLS.

Managers of Secondary Schools and Departments and of Training, Technical Art and Industrial Schools, recognised by the Director under the Madras Educational Rules, are informed that, in every case in which it is intended to remove a recognised school from the building in which it is held and which has been approved by the Director, the plan and sanitary certificate of the building into which it is to be moved should be submitted to the Director, (through the Inspector or the Inspectress of the Circle), previous to such removal, to enable him to see that the conditions of recognition as to accommodation and sanitation continue to be fulfilled.

2. Changes of a temporary nature intended to last for a period not exceeding three months need not be reported.

MADRAS, 24*th February* 1896.

MANAGERS OF SECONDARY SCHOOLS, &c., TO REPORT CHANGES IN TEACHING STAFF.

In supersession of notification, dated 28th July 1893, on page 1097, Part II. of the *Fort St. George Gazette*, dated 1st August 1893, Managers of Secondary Schools and Departments, and of Training, Technical, Art and Industrial Schools, recog-

nized by the Director under the Madras Educational Rules, are requested to furnish him, through the Inspecting Officers concerned, with a statement in the subjoined form showing every change in the teaching staff intended to last for a period exceeding three months. This information is necessary to enable the Director to see that the conditions of recognition as to qualifications of staff continue to be fulfilled. The statement should reach the Inspecting Officer not later than two weeks after the change has taken place.

Report on the Changes in the Staff of Recognized Schools.

Name.	Highest general education test passed.	Highest teachers' certificate gained.	Highest certificate of special or technical qualifications gained (if any).	Period of approved service		Forms or standards under instruction.	Remarks.
				In other recognized schools.	In the school.		

Note.—Particulars should be furnished in two distinct lines for the teacher that has left and for the teacher appointed. The date of leaving in the case of the former and of appointment in the case of the latter should be shown in the column of remarks.

Office of the Director of Public Instruction,
MADRAS, *5th March* 1896.

D. DUNCAN,
Director of Public Instruction.

GOVERNMENT TECHNICAL EXAMINATIONS, APRIL 1896.

Under article 3 of Government Notification, dated 24th January 1893, the following Boards of Examiners have been appointed to conduct the Government Technical Examinations to be held at Madras and other places on the 20th April 1896 and following days :—

I.—Civil Engineering, and Mechanical Engineering :—R. E. Ellis, Esq., A.M.I.C.E (Chairman) ; J. H. Stephens, Esq. ; Alfred Chatterton, Esq., B.Sc. ; C. E. Phipps, Esq. *II. Electrical Engineering* :—G. K. Winter, Esq., F.R.A.S., M.I.C.E. (Chairman) ; R. E. Piggott, Esq., A.I.E.E. *III.—Physical Science* :—Surg.-Major J. L. VanGeyzel, M.B., C.M., F.C.S., F.I.C. (Chairman) ; R. Ll. Jones, Esq., M.A. *IV.—Biology ; and Veterinary Science* :—Dr. A. G. Bourne, D. Sc., F.R.S. (Chairman) ; Vety.-Capt. E. H. Hazelton, F.R.R.S. *V.—Sanitary Science* :—Surg.-Lieut-Col. W. G. King, M.B., C.M., D.P.H., (Chairman) ; Surg.-Major C. Mallins, M.A., M.D., D.P.H. *VI.—Agriculture* : —C. Benson, Esq., M.R.A.C., (Chairman) ; Dr. J. Walter Leather, Ph. D. ; J. Mollison, Esq., M.R.A.C. ; C. Krishnan, Esq., Bar.-at-Law. (For Botany—*special*) ; R. E. Ellis, Esq., A.M.I.C.E., (For the Engineering subjects only) ; E.D.M. Hooper, Esq. *VII.—Commerce* :—John Adam, Esq., M.A., Bar.-at-Law (Chairman) ; E.C. Woods-Scawen,

Esq.; M.R.Ry. K. Subramani Aiyar Avargal, B.A., L.T., A.S.A.A.; Tom Luker, Esq. M.R.Ry. N. C. Rajagopala Chariar.

(By order.)

Office of the Comr. for Govt. Examinations, MADRAS, 12*th February* 1896.

E. H. ELLIOT, *Secretary.*

SCHOLARSHIPS AND PRIZES.

Applications for the following scholarships and prizes will be received up to 31st March 1896. Information relating thereto is contained in the University Calendar for 1895-96, pages 217—220, 202 and 203, 206 and 200, respectively :—

1. A Gilchrist scholarship.
2. A Johnston of Carusalloch scholarship.
3. The V. Rama Aiyangar scholarship.
4. Sir Tanjore Madhava Rau's prizes.

No application will be registered unless it is accompanied by the necessary certificates.

(By order.)

GEO. BICKLE, *Registrar.*

SENATE HOUSE, 4*th February* 1896.

PRACTICAL TEST FOR TEACHERS' CERTIFICATES UNDER THE MADRAS EDUCATIONAL RULES AT SAIDAPET AND MADRAS CENTRES.

The Practical Test for Teachers' Certificates of all grades will be conducted by the Board of Examiners for Teachers' Certificates on the 8th April and the following days.

2. Applications for the above test in the prescribed form should reach the Secretary to the Board of Examiners for Teachers' Certificates at Nungambakam, Madras, not later than the 20th March 1896. Copies of the revised printed form of application may be had from the Secretary.

3. Applications not prepared in the prescribed printed form, or defective in any particular or insufficiently stamped will be returned.

Office of Secy. to the Board of Exrs. for Teachers' Certificates.
MADRAS, 7*th March* 1896.

E. MARSDEN, *Secretary.*

SUMMER SESSION, MADRAS MEDICAL COLLEGE.

The Summer Session of the Madras Medical College will commence on Wednesday, the 1st April 1896.

The following courses of lectures are open to *qualified* candidates on payment of a fee of Rs. 20 for each course :—

Practical Chemistry.	Practical Hygiene.	Operative Surgery.
Practical Pharmacy.	Histology.	Minor Surgery.

W. PRICE, M.D.
MADRAS, 2*nd March* 1896. *Principal, Medical College.*

MADRAS EDUCATIONAL RULES.

In consequence of the frequent applications made for copies of the Revised Madras Educational Rules, it is notified that the rules are under revision, and that as soon as copies are ready for sale, the fact will be notified in the Gazette.

Government Press,
MADRAS, 5*th March* 1896.

R. HILL, *Superintendent.*

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